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Caring-About Virtual Pets: An Ethical Interpretation of Tamagotchi

Annie O'Rourke

"Tamagotchi is more than a toy, it is a learning device. It teaches people to be responsible - to care for something - like a pet."

Mary Woodward, spokesperson for Bandai Corp., U.S. Division¹

"The real referent of the gismo is nature in its entirety reinvented in accordance with the technological reality principle - a total simulacrum of an automated nature."

Jean Baudrillard²

A prevailing sense of anxiety and ambiguity clouds my thinking when I think of the reality of virtual pets. What I feel towards them has been instrumental in the writing of this article, it has been a sticking point that has forced me to confront whether or not they really matter, and whether I care. Virtual pets are things I would rather did not enter my world, and yet they are here and have affected me and many others.³ This one small toy has opened up a space for a whole new generation of toys that are so called 'responsive' entertainment.

The launch of the virtual pet Tamagotchi was phenomenally successful, seemingly striking a combination of elements which sparked a feeling of its novelty. This novelty operated beyond the usual trajectory of wonder at the close proximity of its simulation of real life. Given that this toy (in its material manifestation) is relatively simple and seemingly benign, the key to interest in Tamagotchi resides elsewhere.

Tamagotchi is an electronic figure that represents a 'pet' on a small (1x1 inch) screen. The screen is housed in an egg sized plastic mould that has about four control buttons which the

¹ Mary Woodward quoted by Rebecca Eisenberg 'Bandai's Golden Egg', *National Netly News*, March 21, 1997.

² Jean Baudrillard, *The System of Objects*, Translated by James Benedict, (Verso, New York, 1996), p.116.

³ Tamagotchi has been an extremely popular, extremely 'faddish' game. The manufactures have sold 20 million worldwide. Added to this are the many 'clones' and other types of computer pets, a fast growing industry accelerated by the net.

player uses to interact with the 'live' pet on the screen. The pet (the Tamagotchi) will periodically call (by beeping) its owner to feed it, play with it, give it medicine and occasionally punish it. The game involved is one of keeping the pet alive for as long as possible by finding the right combinations of inputs that ensure its general well-being. If it all goes wrong (as it did in my case) the 'pet' will die, but you can get a new one by re-setting the program very easily. Although you have to be responsive to its needs, ultimately you have power over the life and death of this 'virtual' other, with no 'real' responsibility attached.

However, if we step back from the media and academic hyperbole surrounding 'the virtual' for a moment, we can start to see the various trajectories which make possible the arrival of such games as Tamagotchi. They have not arrived out of nowhere (or out of 'Planet Tamagotchi- somewhere in cyberspace' as Bandai Corp. have marketed). Computer games are rife, and 'animals' are more popular than ever.⁴ Put in the context of current lifestyles for the targeted group of consumers (of digitised, broken up time, high mobility, and a sense of individual ineffectiveness) Tamagotchi starts to make sense. Rather than just taking this sense as therefore being naturally meaningful, I seek to interrupt the trajectory and look more carefully at what and who is being affected by such inventions, and perhaps more interestingly, by their marketing. This article is thus an attempt to 'respond' to the phenomenon of virtual pets (especially the variety which launched the concept and the fad: Tamagotchi) beyond the confines of the game itself. Doing so is more than a one or two button push.

My approach has been hermeneutic,⁵ for the way in which virtual pets work (and are made meaningful) is through a complex process of interpretation, signification and imagination.

⁴ It is not that we are increasingly in contact with animals, rather, it seems that the opposite is true - the further away we are from them in an everyday sense, the more they are represented and consumed.

⁵ This hermeneutic approach has been informed by readings of Hans George Gadamer, Martin Heidegger and Paul Ricoeur. Specifically, I am interested in their unravelling of the process of interpretation into what Gadamer describes as a 'fusion of horizons' (a meeting of the contextual understanding of the interpreter with that of the interpreted). Hans George Gadamer, *Truth and Method*, Translated by William Glen-Doepel, (Sheed & Ward, London, 1975), pp. 273-274. For an overview of Twentieth century hermeneutic approaches to texts, see: Richard E Palmer, *Hermeneutics*, (North West University Press, Evanston, 1969).

Hermeneutics is involved in unpicking the processes of interpretation, it looks at the sites of mediation (for example, at texts) because the possibility of a pure experience of 'reality' is questioned.⁶ In order to uncover what is at stake with the 'virtual' mediated experience, we have to also look at what it is simulating more carefully, that is, at the concept of 'reality' that supports it.

The game Tamagotchi can be thought of as a 'text' which has a particular world that has been programmed into its computer.⁷ The world of Tamagotchi is encountered by the interpreter (the player) who brings an 'historically operative consciousness'⁸ (a world) which shapes her or his interpretation and experience. In the interpretative encounter, a 'fusion of horizons'⁹ between these two worlds occurs, and a meaningful relation arrives. This is the 'effect' of Tamagotchi, the moment when its world moves out in front of the text itself into the field of life and action. It is through interpretation and imagination that the Tamagotchi housed in the plastic egg becomes meaningful as 'pet'.

The trajectory of this article follows the idea of 'worlding' and encounters between subjects and objects quite closely. In the break up of this text, I am mimicking a heuristic devised by Sandra

⁶ Paul Ricoeur in describing hermeneutics claims that it involves a 'general mistrust concerning the claim of any philosophy to reestablish the primacy of intuition, immediacy, as though we could have before us in our minds the pure presence of "what is"'. He then goes on to say that 'the word hermeneutics will be the task of the explication of all the symbolic systems which relate us indirectly to reality, whatever this reality may be. And this will be, I suppose, one of the stakes, that is, one of the ontological premises.' Charles E Reagan, 'Interviews, 1982' in *Paul Ricoeur: His Life and Work*, (University of Chicago Press, Chicago, 1996), p.1.

⁷ The notion of 'world' is central to a hermeneutic understanding of the process of reading and imagination. Richard Kearney describes hermeneutics as being 'not just confined to the objective structural analysis of the texts, nor to the subjective existential analysis of the authors of the texts. Its primary concern is with the worlds which these texts and authors open up.' Richard Kearney 'Paul Ricoeur and the Hermeneutic Imagination' in T.Peter Kemp & David Rasmussen, eds., *The Narrative Path: the Later works of Paul Ricoeur*, (MIT Press, Cambridge, Massachusetts, 1991), p. 6.

⁸ 'Historically Operative Consciousness' (or 'prejudice') is the Gadamerian way of expressing what Heidegger terms a subject's 'forestructure', that is, the culture, history and language through which a subject learns to make the 'world' meaningful. Because of this 'making' the world can never be thought of as entirely outside the subject. For Gadamer's description of prejudice see *Truth and Method*, p.237.

⁹ The 'fusion of horizons' is a meeting of the contextual understanding of the interpreter with that of the interpreted. Gadamer, *Truth and Method*, pp. 273-274.

Schneiders in her feminist hermeneutic reading of the Bible.¹⁰ Here the complex interpretive moment is broken up into three worlds: the world of the text, the world behind the text and the world before (or in front of) the text. Section One (the world of the text) reads Tamagotchi as a text that has a structure and narrative that mimics the temporality we usually associate with 'life'. Here my research was taken from my own experience of the game as well as interviews with other people who have come into contact with Tamagotchi, most of these were primary school aged children. Section two will look at the world behind the text: that is, asking what it was that gave rise to the text and the relationship of these factors to the text itself. In the case of Tamagotchi I will focus specifically on the 'caring' relation it commodifies and makes virtual by drawing on its relations to children, pets, and computer games. Section Three looks at the world before the text, that is, the world that has shifted and changed as a consequence of the encounter between the interpreter and the text. As the marketed image of Tamagotchi claims, it is in fact a 'learning device'. But what exactly is being taught and learnt needs to be examined more closely and radically questioned by someone who 'cares'.

Section 1. The World of the Text: The Consumption of Tamagotchi

"If you keep your Tamagotchi full and happy it will grow into a cute, happy, cyber creature. If you neglect it, it will grow into an unattractive alien." (Bandai Instruction Booklet)

"You don't just play with your Tamagotchi when you feel like it - it will let you know when it wants you. It will beep and cry for you, and its sounds will get louder and louder until you give it attention. If you ignore it, Tamagotchi will misbehave, or die."¹¹

In order to understand Tamagotchi the players have to enter into its world and be open to its meaning and structure. As readers of this text, we also have to be open to it so that we can ultimately uncover its ethical effects. Because I am interested in the ways in which Tamagotchi are interpreted and experienced, my research in this area has focused on my own experiences of the game,

¹⁰ Sandra M. Schneiders, *The Revelatory Text: Interpreting the New Testament as Sacred Scripture* (Harper, San Francisco, 1991).

¹¹ Eisenberg, 'Bandai's Golden Egg'.

interviews with children who either use them or know of them, and web based research (chat rooms, personal and company websites).

Although this game is eminently repeatable (you can simply press reset if your current 'pet' dies) it is not an experience I would personally wish to repeat. My ability to respond to its beeps (in all manner of contexts) lasted only a short time. After a while, I basically programmed it to 'sleep' (to minimise its beeps), and it died soon after. I pressed 'reset' and got a brand new pet, the last one was soon forgotten. This pet lasted slightly longer (I had learnt a few tricks), but ultimately it suffered a similar fate to the first. Is this a reflection on my poor ability to mother and nurture? Should I be feeling guilty? The context of my use of the game had almost completely pre-figured my experience of it - I was researching an article, I was already cynical, I did not 'believe'. But more than this, my ontological experience of the object made it very easy for me not to care, it is small and plastic, it is very easy to make it 'go away'. Nevertheless, I still did not feel entirely comfortable in admitting that I had let it die so easily, and the children I spoke to were appalled at my lack of remorse.

To believe in this object's 'life', one necessarily has to construct a kind of narrative around its existence. This narrative involves not only the game itself, but also your role in relation to it (ie as a mother or carer). Adults whose children were not allowed to take them to school were made into 'babysitters', and people who deliberately killed theirs were named on a number of websites as 'abusers' and 'torturers'. Virtual Pets mean very little in themselves (as figures on a screen), it is their narrativisation (primarily in the head of the user) which makes them become a 'pet' and forces a particular kind of behaviour.

Paul Ricoeur describes narrative as a grasping together of events to make a temporal whole.¹² This 'grasping together' is an active, interpretative function of the imagination, and thus has to do directly with the 'worlding' of the interpreter. However, a certain openness towards the 'story' of the text must be given by the interpreter, and this means a willingness to follow the temporal and spatial dimension given by the text. There are certain rules, structures, and usually a strong temporal dimension which are

¹² Richard Kearney 'Paul Ricoeur and the Hermeneutic Imagination' in Kemp & Rasmussen, *The Narrative Path: The Later Works of Paul Ricoeur*, p.18.

designed by the maker of the text (in this case the designers of Tamagotchi) with the user's experience and ability to interpret the text in mind.

Tamagotchi simulates an organic being by presenting something which is seemingly operating under its own temporality (it beeps at you when it wants you). It mimics the narrative most often ascribed to organic beings in the West, that of an inexorable movement from birth through to death. This trajectory is the familiar narrative structure of 'beginning, middle and end' as explicated by Aristotle.¹³ The designers of virtual pets have imitated this structure and made it into the game itself.

In the case of Tamagotchi, the 'game' is to keep the pet alive as long as possible. The responses which you can give to the 'cries' of the Tamagotchi are limited by the computer's program and number of button options (there are usually four buttons with sub-programs, so there are approximately 16 things you can 'do' to your Tamagotchi). Figuring out the rules of the program and your particular role is the challenge of the game.

Tamagotchi was first discovered in Japan. Tamagotchi hatch from tiny eggs after travelling millions of lightyears through cyberspace. With proper care and feeding (accomplished by pushing buttons on the eggs) Tamagotchi quickly grow into adorable virtual reality pets in a wide variety of shapes and personalities.¹⁴

Bandai have constructed the myth that Tamagotchi were created independently of their physical design and manufacture. The 'world' from which Tamagotchi come from is imagined as completely immaterial, just as the pets themselves are also immaterial. Because you can 'reset' Tamagotchi and get a new one, the egg shaped casing is like a cage or nest in which you temporarily nurture the alien pet-creature. The origins and ontological experience of the this egg (as plastic and silicon) are completely erased by the mythology created by its marketing¹⁵ and by their wide interpretation as being 'virtual'.

¹³ J. Hillis Miller 'Narrative' in F. Lentricchia & T. McLaughlin, eds., *Critical Terms for Literary Theory* (University of Chicago Press, Chicago, 1990), p. 66.

¹⁴ Bandai, *Tamagotchi Home Page* 1997

¹⁵ Jean Baudrillard in *The System of Objects* writes 'in order to consume it, the object has to first become a sign'. As I outlined at the end of section one, the user is consuming the idea of the animal and computer as pet.

Once the egg has been hatched and the Tamagotchi is born onto the screen it is now up to the user to 'look after' it. One of the many websites offering helpful 'mothering' hints for Tamagotchi states:

Tamagotchi require lots of tender loving care, in the form of frequent feedings and attention. Hang on there, the baby stage doesn't last very long. They mature very quickly, one human day equals one Tamagotchi year.

The internal clock of the Tamagotchi mimics the different lifespans of 'real' pets as interpreted by humans. As a child, it was a source of continual delight to figure out the 'human age' of various pets in order to determine their relation to me (if they were older or younger, a child, teenager or old man).

Tamagotchi are programmed to change their weight, get older and eventually die. There is a 'handy' statistics measure (of happiness, hunger, health and weight levels) for the user to determine the relative doses of affection, punishment, food, play, sleep and medicine to give to the pet (through pushing various combinations of buttons). Can our relationships with pets be so easily characterised and simply programmed? Consider the following description of the human/pet relationship:

Like children, the animal must be cared for: fed and watered, kept from eating dangerous foods and objects, bathed, groomed, protected against the elements, clothed when necessary, brought to the doctors and spoken for at the doctors. Like children they are petted, stroked, and played with at the will of the owner, their range of motion being limited and sex life controlled.¹⁶

What this quote reveals is the connection between behaviour towards children (parenting and nurturing) and animals in the form of pets (which I will analyse in more detail in section two). If we use this same quote to think through the role that Tamagotchi has simulated we could just as easily substitute 'the animal' for 'the Tamagotchi', the clever marketing and design of the machine by the manufacturers have almost taken such a description of the role of pet keeping practices and mimicked it with an electronic lifeworld interface. Tamagotchi reveals that what it is simulating

¹⁶ A.M. Beck. & A.H. Katcher, *Between Pets and People* (G.P.Putnam, New York, 1983), p. 60.

is already somewhat programmed and constructed by our narratives. As will be further examined in section two, the relations of nurturance towards pets and children are naturalised by making them virtual, they are taken as the 'real' referent to which the virtual refers.

The creation of Tamagotchi does not just stop at the screen's image of the hatched egg, and the marketing of Tamagotchi does not stop at its point of purchase. The reasons for purchasing the Tamagotchi are often due to social pressure and a responsiveness to advertising. One eight year old girl told me that after she saw the ad on TV for Tamagotchi, she: 'had to have one because I love animals'. The connection between the sign of the animal and the game of the virtual pet had been successful and the purchase made. Another described the fad hitting their school with the following narrative 'It all started when Sophia's Dad went to Japan and brought her back a Tamagotchi. She took it to school, then everyone had to have one'. Those who I interviewed who did not personally own a Tamagotchi or virtual pet knew almost as much about them, they had entered the everyday folklore of the primary school.

Because it is small, it can be carried on the person everywhere. You are thus always responsible for it and have no real excuse for it becoming sick or dying. Addictive and obsessional behaviour towards Tamagotchi is encouraged by the very game itself which forces the user to re-enter its world intermittently throughout the day with its constant reminders for attention. A salesperson in a Sydney toy shop described them as 'initially quite addictive, but you eventually get sick of them and stop caring.' Many other interviewees and comments on web pages followed a similar path of desire, purchase, initial excitement, addiction and emotional attachment, then annoyance and finally detachment. Similarly, 'real' pets only stay cute and appealing to humans for a short period of time. Once the initial novelty of the 'other' as young and manipulable wears off (they grow up and are sometimes then abandoned), the everyday chore of 'looking after' ceases to be so romantic.

The illusion of an organic 'other' was uncovered by one user as being nothing other than a strenuous alarm clock. He complained that when two friends set them at the same time, they then beeped and demanded at the same time for the rest of their

'lives'.¹⁷ This, he deemed, was not responsive enough, the illusion or organicism was unmasked as a set program with minimal variables. One child at the primary school was excited by the promise that 'if you treat it well, it will live forever'. Unfortunately the confines of a two digit time system means that they have to in fact 'die' at 99 years (that is 99 days in human time), rather like the problem of the millennium bug. It is thought that most die within two weeks of their 'creation'.

You cannot simply turn it off. In order to end the game you have to 'kill' the Tamagotchi by neglect, or by bringing out of balance the various inputs at your disposal (feeding, punishing, medicine, bathing, poo cleaning, making it sleep etc). The movement towards death that Tamagotchi imitate is a carefully constructed narrative both on and off the small screen. The image of death was changed by the manufacturer Bandai when it was released into the U.S. market. U.S. trial users were somewhat disturbed by the Japanese version of death which had an image of a cross and a gravestone. It was changed to an image of an angel, and the mythology of 'Tamagotchi land' and cyberheaven was elaborated upon in the booklet and websites. There is a 'Tamagotchi Graveyard' on the web where you can post your dead Tamagotchi's details (name, age, favourite habits) with a message to send to it in cyberheaven.¹⁸ The 'ritual exploration of life and death' (which according to Turkle is the function of playing with computer games¹⁹ as expressed through games such as Tamagotchi carries some fairly hefty emotional baggage. One user stated passionately: 'Those who say we feel no pain at resetting the game have obviously not raised a Tamagotchi on their own.' And yet when the user is finally bored of the game, its material 'death' is not even noticed. All the emotional energy and interest is in the imaginary pet as represented by the small figure on the screen.

¹⁷ Glen McCrae, *Don't Bother Buying a tamagotchi*, Website, August 1997.

¹⁸ Most entries were concerned with expressing their love for the pet 'God bless Linda, I bet she's having fun up on planet Tamagotchi.', another repeated 'I'm Sorry' two hundred times, and someone else said 'To Devon my worst Tamagotchi, you will never be missed cause I hated you because you always beeped in the night even when I was trying to sleep, hope you go to hell and rot you little disgusting Tamagotchi.'

¹⁹ Turkle's thesis is that the use of computer games is to play with ownership and control over something which frightens us and is potentially beyond us (ie computers). She writes that 'the children allow the toy its most autonomous behaviour, and then, when it is most like a living thing, they kill it.' Sherry Turkle, *The Second Self: Computers and the Human Spirit* (Simon & Schuster, New York, 1984), pp. 34 -38.

One vehemently anti-Tamagotchi website (and there are a few) is called 'Smash Tamagotchi'. Its writers urged people to send their Tamagotchi to them with the promise that they will be smashed. Interestingly, the same writers later reflected that although they had had many 'hits' (visits to the web page) no one had actually sent them to be smashed. What this illustrates is that people do not actually think of Tamagotchi as material, the Tamagotchi creature is ephemeral and un-smashable. A neo-luddite response to Tamagotchi is clearly not an entirely appropriate reaction to the power of the virtual.

The narrative structure encountered in the world of the text is limited to the users immaterial experience of the Tamagotchi. The material life-span (or life cycle) of the object is concealed by this narrative. But this life-span, although concealed, is still present in an ontological sense. Although we may not be fully conscious of it, it designs our experiences, our ability to care and be responsive to the virtual creature.

None of the children I interviewed mentioned what had happened to the Tamagotchi object once they were sick of the game, it is almost as if it is not even 'seen'.²⁰ Once the program had been figured out, the challenge of everyday care was eventually just too everyday. The initial shine of the virtual (in its proximity to the real) is dulled by its repetitious nature, much the same way as children (and adults) tire of pets once they are no longer young, cute and novel. Responses to the pet by the user (who after all exists in both the world of the text and outside of it) can be controlled, managed, and made to disappear. The imaginary which prompted the interest in the object has been consumed and the 'care' that Tamagotchi professes to teach is similarly abandoned.

There is a disjuncture between the world of the text in its imaginative realm and the world of the text in its ontological or material domain. The material waste produced by such fads is not

²⁰ The children I spoke to at a primary school were confused by my questioning of what they did with them after they got sick of them. Most admitted that their Tamagotchi's had joined the other 'junk' and discarded toys in a cupboard or under the bed. They were much more interested in describing how they had gotten rid of the immaterial Tamagotchi through various methods of starvation, burying under pillows and turning the sound down so that they would 'not have to hear them die'.

taken seriously; the waste of time (which also has material effects) can span anywhere from two days (in my case), to a couple of years. Although a Tamagotchi death is experienced as immaterial, its material reality (which has been concealed) forecloses our response to its worlding. It is the ontological/material experience of Tamagotchi which finally teaches us not to care about Tamagotchi's well being.

Section Two: The World Behind the Text

"What is said stands against the background of the vast unsaid to which it is related."- Hans George Gadamer²¹

In order to understand the phenomenon of Tamagotchi we need to re-contextualise it into the life-world from which it arrived. Rather than getting carried away with its novelty (an approach which itself has an ethical effect²²) I want to make apparent some of the different elements which make it meaningful. To do this in its entirety is an impossible task (for it will arrive to different people in a multitude of ways) but there are some dominant themes and discourses which can be deciphered as the nodal points from which Tamagotchi was configured. The elements I have identified are specifically related to the broader questions that I have brought to the text: that is care, ethics and a concern about virtual 'otherness'.

In order to uncover the unsaid or background that makes Tamagotchi meaningful, we have to look at the 'reality' that Tamagotchi is making virtual. This dynamic itself is not innocent however, it effects the elements that are being represented. It is my proposal that by making a 'virtual' version of a 'real' image or object, the reality status of that object becomes naturalised and fixed. The virtual, (which is defined as the 'almost' rather than the artificial - which is the 'fake'²³) as a technologised entity,

²¹ Gadamer, *Truth and Method*, p.456.

²² Gadamer writes 'What changes forces itself far more attention than what stays the same. That is the general law of our intellectual life. Hence the perspectives that come from the experience of historical change are always in danger of distortion because they forget the hidden constants.' (my emphasis) Gadamer, *Truth and Method*, p. xiii.

²³ Schirmacher describes how the term 'artificial' (which implies the fake) has been replaced by the buzzword 'virtual' (which is the 'almost') in contemporary society. He writes 'This would certainly meet the much lesser expectations we have in this field nowadays: "almost" life, "almost" reality, "almost" intelligence would leave our traditional world view intact, merely

makes possible a repeatable experience of the 'nature' it is replicating. To revisit the quote at the opening of this article by Baudrillard, the real referent outside of the virtual (ie nature) is actually re-invented as a simulacrum of an automated nature.

Tamagotchi contains a relatively simple computer program that is easily learnt. It arrives in a space whose occupiers are by and large computer literate, televisualised, urbanised and used to a certain quality of graphics and interactivity. The appeal of Tamagotchi cannot then be put down to a simple fascination with the highly technological. Its graphics and virtuality are similar to that found on a digital wrist watch or even on a calculator and come nowhere near being an 'almost' animal. The novelty and interest in Tamagotchi thus clearly resides elsewhere than the interface itself. In this section I will argue that it is the elements, discourses, boundaries and objects to which it refers which make it popular. These elements in themselves are not especially new or novel, indeed they are rather familiar, close and almost naive.

Heidegger argues that what is closest to us is precisely what is most hidden,²⁴ so in the case of Tamagotchi, what has been capitalised on by the manufacturers is the very proximity of caring-for relations which are deemed necessary in our current culture and which are not usually associated with a computer interface. So it is the bringing together of a number of different realms (the animal /machine/ human, care and nurturance) into the one symbolic object which makes it so new and exciting.

The configurations from which Tamagotchi takes its meaning can be generally located within the domestic sphere: children, play, toys, pets and nurturance or mothering. Tamagotchi were supposedly created by a Japanese mother whose child could not have a real pet,²⁵ and it was initially marketed to young Japanese girls. However, its popularity grew far beyond this group, transgressing the usual gender and age barriers for toys of its genre.

adding new layers to it.' Wolfgang Schirmacher, 'Homo Generator: Media and Postmodern Technology' in G. Bender & T. Druckey, eds., *Cultures on the Brink: Ideologies of Technology* (Bay Press, Seattle, 1994), p. 67.

²⁴ Paul Ricoeur uses Heidegger's thesis to explain why the distinction between what appears and what is hidden is not too sharp (this is in the context of explaining his use of both phenomenology and hermeneutics). Charles E. Reagan, 'Interview with Paul Ricoeur June 19, 1982' in *Paul Ricoeur: His Life and Work* (University of Chicago Press, Chicago, 1996), p. 4.

²⁵ Tamagotchi Website: Bandai Corp. 1997.

It is worth staying with the marketed image of Tamagotchi for a while, for it is here that the connections to the 'real' world are most explicitly being forged. We have to be careful however, for marketing itself works in a similar way to the virtual. It creates and fixes the very market it is seeking to sell its product to. Like the virtual, it does not simply represent (and then satisfy) a consumer's previously unfulfilled desires. These images actively shape and mediate how the object or text is received and experienced.²⁶

The marketing discourses of Bandai (the manufacturers and distributors of Tamagotchi) specifically work to solidify the idea that children can learn to act responsibly through being in contact with pets. Revisiting the opening quote of this article by a Bandai representative ('It is more than a toy, it is a learning device...it teaches people to become responsible, to care for something, like a pet.') we can see how the phrase 'like a pet' grounds the claim that has just been made. It is assumed that by looking after an 'other' being, children learn an ethical and moral lesson of care. I do not doubt that a sense of morality or ethics is learnt from the contact between pet and child, but does it then follow that what is learnt is 'right' and 'natural'? What is being learnt is a culturally specific set of rules and moral codes of permissible behaviour.

Hegel situates the importance of the domestic setting as the site wherein ethics are formed in the subject.²⁷ This realm has been overtly coded feminine and private and been demonstrated as such by feminist theory. In Western culture it has been somewhat locked out of the realm of public discourse and knowledge. Likewise reason has been privileged over passion and emotion,²⁸

²⁶ The media often later picks up on these marketed groups, using them to describe the current social milieu. For example Linda Lee writes of Western adolescents 'why not just call them the Tamagotchi Generation? They like things technological and cute (like the 1995 movie Babe), they are open to the global marketplace and they insist on their right to irony. And unlike the electronic pets called Tamagotchis, the Tamagotcheratis will never die as long as marketing people are willing to push their buttons.' Linda Lee 'Grunge gets the boot in bright new world of idoldom', *The New York Times*, March 13, 1998, p.24.

²⁷ Hegel's position is discussed in Selya Benhabib, 'The generalised and the concrete other' in E. Frazer, J. Hornsby & L. Lovibond, eds., *Ethics: A Feminist Reader* (Blackwell, London, 1992) p. 248.

²⁸ Alison Jagger, 'Love and Knowledge: Emotion in Feminist Epistemology', *Inquiry*, 32, 1989, p.151. This realm, and the bodies that support it (the mothers' bodies) are described as natural: childbirth and childrearing is assumed to be one of the most 'natural' occurrences of the human condition. Many feminists have

and the relation has been 'naturalised'. So we can start to see why Tamagotchi were initially marketed to young girls, because girls traditionally learn mothering behaviour through playing with dolls and mimicking their own mothers' nurturance and responsiveness to others. The fact that Tamagotchi have become popular beyond this limited category is perhaps testimony to the actual fluidity of these roles, that they are not grounded in a feminine bodily 'reality' of the capacity for childbirth, but are rather taught and learned behaviours.

Tamagotchi explicitly plays on and constructs its close proximity to the domestic. By making virtual a relation of nurturance and imitation (ie children pretending to be adults, especially mothers) what is simulating gets broken down into a manageable program of feeding, affection, health and punishment. The fact that it can be virtualised so easily is shocking partly because it is too close to what already occurs. As well as this the nostalgic idealisation of the domestic and nurturance is revealed to involve practices usually found in the public domain: that is time management and programming. The romanticised 'natural' realm of the private and domestic is shown to be easily replicated and made into a computer program.

Tronto describes the 'nurturance' most often acted by mothers as an ethical system based on the relation of 'caring-for' another (which is in contrast to a masculinist public 'caring-about' relation).²⁹ In section three I will take up this idea of the 'caring-

challenged this status of the 'natural' in relation to women and childrearing, identifying the discursive power relations that hold it in place as a dominant ideology. See for example E. Martin, *The Woman in the Body: A Cultural Analysis of Reproduction*, (Open University Press, London, 1987); Elizabeth Grosz, *Volatile Bodies: Towards a Corporeal Feminism* (Allen & Unwin, Sydney, 1994); and P. Treichler 'Feminism, Medicine and the Meaning of Childbirth' in M. Jacobus et.al. eds., *Body Politics: Women and the Discourses of Science* (Routledge, London, 1990).

²⁹ Joan Tronto, 'Women and Caring: what can feminists learn about morality from caring' in A.M. Jagger & S.R. Bordo, eds., *Gender, Body, Knowledge: Feminist Constructions of Being and Knowing*, (Rutgers University Press, New Jersey, 1989), p.173. The strand of moral theory known as the 'feminist ethic of care' stresses the exclusion of women from traditional Western moral theory as well as women's sense of morality as being less about abstract situations than caring for others around them. It hints towards an inter-subjectivity that displaces the traditional Western patriarchal ethical systems which emphasise the individual moral subject capable of making objective decisions from universal principles. See for example Carol Gilligan, *In a Different Voice: Psychological Theory and Women's Development* (Harvard University Press, Cambridge, 1982).

for/about' in Tamagotchi to show that it teaches a 'caring-about' while simulating a 'caring-for' model of ethics.

The recognition of an 'other' as being outside of oneself reiterates an ethical model that is provided by Levinas, that of the recognition of finitude through the face of the other.³⁰ It is particularly interesting to think through this notion of ethics in terms of the animal as 'other'. Recognition that the animal's world is outside of our complete comprehension and understanding does force the human subject to acknowledge their own finitude to some degree. What is questionable is whether this can occur in either the pet or virtual pet relation. Here the interpretations and encounters with the 'other' are already so prescribed and pre-figured that any 'otherness' is easily concealed. By responding to an 'other' that has been programmed by another human to call for you (ie the Tamagotchi), are we thus able to recognise our finitude and thus ethical situatedness? I would like to leave this larger question open.

The other-ness of the pet is often concealed by the common human treatment of the pet as a child. For example language that is spoken to both infants and pets has been referred to as 'motherese'³¹). Thus the interpretation of the animal is not one that is totally open to the world of the other, rather it is a form of anthropomorphism that projects the subjects' identity onto the object. It has been argued that the 'cute response' to many animals and pets is a kind of misplaced response to our own babies that illicit an innate desire to nurture and protect.³² This 'innate' desire is naturalised and made a necessary part of the grand narrative of human evolution. What is at stake in this discourse is the ultimate meaning and future of the 'human', any feelings

³⁰ Levinas writes 'We name this calling into question of my spontaneity by the presence of the Other, ethics.' Immanuel Levinas, *Totality and Infinity* (Duquesne University Press, Pittsburgh, 1969), p. 43.

³¹ James Serpell writes 'People even talk to pets and children in similar ways. Psychologists have found that, in terms of structure, the manner in which people talk to their dogs strikingly resembles the specific kind of language, known as "motherese", which is adopted by mothers when talking to their infants.' James Serpell, *In the Company of Animals: A Study of Human Animal Relationships*, (Cambridge University Press, New York, 1996), page 78.

³² Serpell attributes this idea to ethnologist Konrad Lorenz who compared the many different animals that elicit a cute response and showed their similarities to human infants. Similarly, Stephen Gould is quoted by Serpell as writing 'we are fooled by an evolved response to our own babies, and transfer our reactions to the same set of features in other animals', *Ibid.*, p. 76.

towards others outside of this boundary are denigrated as misplaced and sentimental.

As children, we play with toys and dolls by making them 'alive'. Similarly we construct a world of human reference for animals (a form of anthropomorphism) in order to interpret their behaviour. The boundaries implied by the term 'anthropomorphism' (between human and the animal) are not necessarily realisable to the child, rather these boundaries are learned later. Midgely writes that children slip more easily between the world of humans and animals, the boundaries between them having not yet been fully learned.³³ I would extend this observation to the division between the real and the artificial and virtual. As adults, we may 'know' the rules in a formal sense, but our everyday relation to things suggests that the childhood animism I have identified may never be fully grown out of. Such animism could even be called a form of virtualisation or narrativisation, a world is constructed that is related to (but not quite) the one that is partly concealed. Our worlding and techniques of interpretation precede our very experiences of the object so that our encounter with it is meaningful.

If we add to this picture the boundary between the human and machine we can witness the high degree of anthropomorphism (behaviours such as talking to one's computer, responding to the television etc) that circulate beyond the domain of games. The toys that adults play with (cars, boats, computers, mobile phones) are just more complicated and expensive. Tamagotchi as 'virtual pets' reveal that the boundary between the animal and machine is only meaningful to the human. They play on these dynamics and uncertainties over boundaries, turning the 'animal' into the 'machine', an image already prefigured by Descartes' influential image of the automaton. What Tamagotchi reveal to us is the way in which we already virtualise most of our relations with 'others'. By virtualising an already unsure distinction, Tamagotchi confuse our ability to make a clear moral judgement; the grounds on which such judgements are usually made have been shifted.

³³Mary Midgely, 'The Mixed Community' in E.C.Hargrove, ed., *Animal Rights/ Environmental Ethics* (State University of New York Press, New York, 1992), p. 218.

Section 3: The World Before the Text: What can we learn from Tamagotchi?

As is suggested by the phrase 'the fusion of horizons', the complex processes of encountering and interpreting a text involves an activity of transformation. Something occurs in this encounter between the text and the reader (or the game and the player as in the case of Tamagotchi) which changes both of them. Ricoeur describes this as the world or story encountered in the text being appropriated, becoming part of the subject's own story or world. Because any encounter is situated within a complex field of relations, objects, meanings and their interconnections, it will have a number of different consequences perhaps not even immediately apparent. Ricoeur stated in an interview :

Interpretation is not limited to the boundary of the text. As soon as we raise the problem of appropriation or application, then we go out of the world of the texts and to the field of life and action. And then we are confronted by ethical questions and political questions.³⁴

There has been much concern over the possible effects the 'virtual' may have on the 'real'. Such concern expresses an anxiety over the possible replacement of the real by the virtual. For instance, Kruger asks: 'will real action lose its immediacy when it is but a replication of a simulated activity?'³⁵ Though I too share in some anxiety over virtuality, what I have attempted to show is that the 'real' or 'immediate' is not only effected by the virtual, but is actually constructed by it. It is difficult to identify which one comes first for the virtual is anticipated in advance of our contact with it, then it actively constructs the world from which we supposedly come. This movement can be recognised as what is known as the hermeneutic circle.

Tamagotchi complicates the picture, because it is directly working on and fictionalising the world of praxis (ie by making a 'pet' that we have to respond to). However, we have to look beyond the confines of the game itself into the fields of its many consequences in order to see what political and ethical changes it is effecting. The term 'consequence' suggests a linearity (a cause and effect model) which conceals the more complex movements

³⁴ Paul Ricoeur quoted in Reagan 'Interview 1982', p.10.

³⁵ Myron Kruger, 'Foreword' to Michael Heim, *The Metaphysics of Virtual Reality* (Oxford University Press, New York, 1993), p. x.

of 'worlding' that I have laboured to articulate in my analysis of Tamagotchi. Once we put Tamagotchi back into the everyday contexts of its use (ie in the overtly saturated universe of media, the virtual, images, objects, toys and the plethora of useless gadgets) we can start to see how the linearity suggested by 'consequence' starts to become confused. Baudrillard writes: 'the anticipation of reality by images, the precession of images and media in relation to events, such that the connection between cause and effect becomes scrambled and it becomes impossible to tell which is the effect of the other.'³⁶ Tamagotchi, as virtual pets, reveal to us the scrambling and complexity of the relation between reality and the virtual, turning nurture into a naturalised virtuality.

Following on from the contexts described above, perhaps one of the reasons Tamagotchi has become so popular is that it feeds directly on our sense of increasing inability to be able to determine and fully comprehend our effects. As subjects (who gain our very 'subjectivity' through the reflection of ourselves in others and through the interpretation of texts ³⁷), we seem to have developed the desire to make something respond to us and to which we have immediate and eventually dire effects.

By broadening the ethical model of consequence out from its close proximity to subjectivity to a more complex system of relationality, we are able to start to make connections outside of our immediate anthropocentric worlds. Revealing the material life-cycle of the Tamagotchi (as was demonstrated in Section Two) is one way of working against the complete hegemony of the narratives of 'life' as constructed in the image of 'virtual life'. No matter how immaterial, imaginative and ethereal virtual worlds such as Tamagotchi appear to be, they are still contained within the finitudinal boundary of human interpretative ability. A 'real' dog would not immediately interpret a Tamagotchi 'egg' as a rival. However, the dog may notice that this object is taking up human attention and changing behaviour. By using this example I am forced into an anthropomorphism which projects a certain

³⁶ Jean Baudrillard, *The Evil Demon of Images*, translated by Paul Patton & Paul Foss (Power Publications, Sydney, 1987), p. 19.

³⁷ Paul Ricoeur writes: 'what is interpreted in a text is the proposing of a world that I might inhabit and into which I might project my ownmost powers' and later: 'The shortest route from the self to itself is through the images of others.' Paul Ricoeur quoted in Kearney, 'Paul Ricoeur and the Hermeneutic Imagination', p.17.

image of the 'other' in order to illustrate yet another human-meaning.

By making pets 'virtual', is it possible that 'real' animals may be relieved from the burdens of human subjectivism? The abuse animals are *subjected* to through our attention (or lack of it) could be a way of lessening negative human impacts on the animal domain. But this consideration opens up a larger, more problematic question. If animals are no longer to serve as our pets, where will they go and how will they survive? Is there room in our vision of the future (a world projected which effects our current world) for animals beyond our use of them as 'standing reserve'? The increasingly enframed and designed worlds in which we live have less and less time and space for others to exist in their own autonomy. The enframing of our modern technologised lives Heidegger argues is capable only of revealing to us our own image.³⁸

Although animals are made to be our foils (especially pets), encountering them at least forces humans to recognise our own finitude and capacity to be open to the world of genuinely alterior 'other'. To paraphrase Gadamer, in any genuine questioning (which this article has sought to be) there is a wall of negativity which is faced, and this is the knowledge of 'not knowing'.³⁹ I would argue that Tamagotchi's 'otherness' gets concealed by their momentum and interpretation as sign. The caring-for relation which they seemingly encourage is actually packaged into a more generalised caring-about that does not have to confront the knowledge of 'not knowing'.

Because in an ecological/relational framework everything has effect, it is a moot point that something is indeed being effected by Tamagotchi's presence and use. Thus my concern over the ethical models being taught and learnt by an encounter with Tamagotchi is one of caring-for what is being effected by their use. What is taught is a generalised type of care that pays little heed to the complexity of responses needed for changing situations. What Tamagotchi (as consumer item) does is market and package 'ethics'. I have argued that such a form of 'ethics' is actually

³⁸ Martin Heidegger, 'A Question Concerning Technology' in *The Question Concerning Technology and Other Essays* (Harper Torchbooks, New York, 1977) pp. 26-27. This modern technological enframing (or *Gestell*) is only capable of revealing the world as 'standing reserve' to the human.

³⁹ Gadamer quoted in Palmer, *Hermeneutics*, p. 198.

unethical because the consequence is that ethics can then be disposed of once the fad is over. In the mean-time our idea of what 'care', 'response' and ultimately 'ethics' are have been transformed, and it is a world which we all now inherit.

Biography

Annie O'Rourke graduated from Sydney University with Honours from the Women's Studies Department in 1997 for which she was awarded the University Medal. Her honours thesis (entitled 'What does Cloning create?') was a hermeneutic and ethical interpretation of cloning in both its animal and (potential) human manifestations. She has a long standing interest in issues about animals, anthropocentrism, technology and sustainability, and intends to pursue these and related topics in future studies and writing. She is presently working for the EcoDesign Foundation (a Sydney based research, education and consultancy organisation) as a desk top publisher, researcher and contributor to the monthly Journal 'Information Ecology'.

Thinking like an ecosystem: the ethics of the relocation, rehabilitation and release of wildlife

Glenn Albrecht

Human intervention in the form of the rehabilitation, relocation and release of wildlife seems, on the face of it, to be a good thing. It is an outlet for human compassion for species other than our own and is generally aimed at restoration of an environmental imbalance that humans themselves have caused. Similarly, research in the scientific community whose goal to captive breed and then release rare and endangered species back into 'the wild' seems virtuous in that it is meeting an important conservation need. However, it shall be argued in this article that such actions are self-contradictory in that they permit the continuation of the very conditions that led to their being undertaken in the first instance. While limited ethical justification can be made for rehabilitation, relocation and release of wildlife, it is not strong when faced with the claims of what might be called 'ecological justice' where the highest good equals the protection of the maximum amount of interconnected biodiversity in a given environment. The achievement of this higher good requires that our ethical attention and limited scientific and financial resources move away from supporting individual animals and species and be urgently redirected to the preservation and management of whole ecosystems.

The Need to Rehabilitate

The intervention by humans in the natural world is at one level inevitable and must be accepted as no different in principle to the interventions undertaken by other species as they go about the tasks of survival and reproduction. Intervention in the existing order of things by species is a major cause of change in the natural world and a creator of biodiversity in ecosystems. It is at this level, in balance, a positive and creative force in the natural order. On another level, however, intervention becomes a destructive force where the level of disturbance goes beyond the ability of living things to tolerate change and adapt to the new. Suffering and extinction are the likely outcomes of such intervention

/disturbance and the ecosystem in question moves further towards some kind of monoculture or monotony, like a field of wheat or a car park. Under such circumstances, catastrophe is possible since the system is susceptible to epidemics of change.

The issue of human intervention in the natural order of things in the form of the rehabilitation, relocation and release of wildlife covers the full spectrum of intervention. The rehabilitation of sick or injured animals and their successful release back into their own habitat appears to maintain the complexity and diversity of ecosystems. The relocation of species that have exceeded the carrying capacity of their home range also seems to be praiseworthy in that it reduces suffering and death of animals doomed to catastrophic overpopulation in environments that limit their growth. The same could be said for captive breeding programs that have as their goal, the release of rare and endangered species into 'the wild': it is better to have these programs than to see yet more of our native animals added to the 'extinct' list.

The issue of rehabilitation and translocation intervention arises in a specific context in Australia. The assemblage of flora and fauna that was present in 1788 has been severely altered by colonisation of people from all over the world. The old Churchillian wartime phrase has been twisted to capture the essence of 210 years of colonisation: *'never in the history of human kind have so few done so much damage in so little time.'*¹

This is not the context to provide a detailed catalogue of the loss of species and the contraction of ecosystems, however, it is important to be reminded just how severe the damage to Australia's biodiversity has been. Australia is now infamous worldwide for the scale of environmental change, species extinction (especially mammals) and species now rare and endangered.

¹ See Jonathon King, *Waltzing Materialism* (Harper and Row, Sydney, 1978).

	Presumed extinct	Endangered	Vulnerable	Total
Fish	-	10	8	18
Amphibians	-	12	2	14
Reptiles	-	13	41	54
Birds	21	32	50	103
Mammals	20	33	16	69
Total	41	100	117	258

Table 1. (Based on the Commonwealth State of the Environment Report, 1996)²

And, to reinforce the severity of this problem, the following comment from this Report indicates that things are not getting any better:

The bad news...

The loss of biological diversity is perhaps our most serious environmental problem. Whether we look at wetlands or saltmarshes, mangroves or bushland, inland creeks or estuaries, the same story emerges. In many cases, the destruction of habitat, the major cause of biodiversity loss, is continuing at an alarming rate.

The need to halt and ideally reverse this situation is clear and intervention in the form of rehabilitation, relocation and release of native animals is just one part of a bigger rehabilitation picture for the total environment of Australia.

The Evaluation of Rehabilitation and Release Programs

The possibility of evaluating the options of rehabilitation, relocation and release depends largely on there being some evaluative standard measuring 'success' that all can agree on and the ability of science or some other institution to supply reliable data on whether the standard is being met. Conservation biologists have developed a set of practical criteria based on such factors as acclimatisation, medical and genetic screening, pre- and post-release training, provisioning and monitoring³ as a measure

² Commonwealth of Australia, *State of the Environment Report*, 1996, <http://www.erin.gov.au/portfolio/dest/soe/soe96/soeexec2.htm#overviewoftheenvironment>.

³ see B.B. Beck et al, 'Reintroduction of Captive-born Animals' in P.J.S. Olney et al, eds., *Creative Conservation: interactive management of wild and captive animals* (Chapman Hall, London, 1994), p.273.

of the success or failure of reintroduction projects for captive bred populations. The Beck team's measure for success of a reintroduction program was that 'The wild population subsequently reached at least 500 individuals, which are free of provisioning or other human support (and)...will be self-sustaining.'⁴

These criteria do not, however, address cultural and *ethical questions* about whether such projects ought to be undertaken in the first place. Cultural values are notoriously difficult to evaluate. In the domain of the cultural significance of animals it is evident that considerable disagreement prevails between those who value animals solely for their instrumental value (circuses, fox hunters) and those who value them for aesthetic (wildlife photographers) and 'spiritual' (indigenous Australians) reasons.

It is possible to develop evaluative frameworks for assessing relocation and release programs by undertaking a systematic examination of the models and theories of environmental value offered by contemporary environmental philosophers. However, such an exercise is likely to be of interest mainly to environmental philosophers and given the huge diversity of views on offer in environmental ethics, it is, in any case, a task beyond the capacity of a short article.⁵

I offer two related ways of avoiding this dilemma. The first is to propose a simplified schema for the evaluation of intervention based on some fairly uncontroversial knowledge that we have about the importance of biodiversity and its reliance on ecosystem preservation. The second is to generate an ethical framework by close examination of the outcomes of such actions on both the humans and animals involved in rehabilitation and release programs. If it can be shown that the commitments and actions of carers, researchers and policy makers are inconsistent with the interests of individual animals and species involved, then such commitments and actions are also self-contradictory for the person/group involved. This is the case if animals continue to suffer because of our interventions and if ongoing loss of habitat

⁴ Ibid., p.273.

⁵ See M. Zimmerman, *Contesting the Earth's Future: Radical Ecology and Postmodernity* (University of California Press, Berkeley, 1994) for a systematic account of such theories.

compromises the likely success of release and relocation programs.

Ecosystems and Values

Biologists worldwide agree that the major contemporary factor driving species to extinction is anthropogenic habitat destruction.⁶ It takes no breath-taking logic to conclude from this that if we desire to see this trend stopped, then habitat protection in the form of ecosystem protection is needed. Value is then placed on total biodiversity and protection of ecosystems and habitat that contain it becomes the goal of human endeavor.

Such a perspective on total biodiversity has been offered by ecologists such as Aldo Leopold.⁷ Leopold, in a now famous example, argued that the mountains of North America live 'in fear' of their deer, just as deer live in fear of wolves. Remove the wolf and deer proliferate with subsequent overbrowsing of the vegetation of the mountain. Loss of vegetation, in turn, causes erosion and loss of the substance of the mountain. To think ecologically, we need to 'think like a mountain' and appreciate the full balance between predator, prey and habitat. This shift in thinking requires movement from attempting to value nature by assessing individual units, to valuing based on cumulative diversity and complexity.⁸

In Australia, similar balances are critical for a diverse and rich environment. It could be said that arid Australia lives in fear of overgrazing from kangaroos, just as kangaroos live in fear of predation from Dingoes or 10,000 years ago, Thylacines. In other words, animals at the top of the food chain play a vital role in preventing gross exploitation of finite resources from those lower down in a food chain. The same could be said for parasites whose role is to trim the population of excess by attacking those who are in some way weak; their role is no less important than other more charismatic species. In complex adaptive systems, it is not

⁶ See Andrew P. Dobson, *Conservation and Biodiversity* (Scientific American Library, New York, 1996) for a very useful summary of the contemporary issues.

⁷ See Aldo Leopold, *A Sand County Almanac* (Oxford University Press, Oxford, 1966); in particular, the essay, 'Thinking Like a Mountain'.

⁸ See Bryan Norton, 'On the Inherent Danger of Undervaluing Species' in B. Norton, ed., *The Preservation of Species: The Value of Biodiversity* (Princeton University Press, Princeton, 1986) on the importance of valuing total diversity.

possible to isolate elements that are clearly more important than others.

Given the complexity of ecosystems it is not desirable or practical to assess the value of species or human actions in ways that are isolated from the system as a whole. Such a perspective is consistent with what we currently know about individuals, species and their relationship to their habitat. Animals exist by virtue of their dependence on a functioning ecosystem within which they survive and their survival is partly constitutive of that ecosystem at the same time. Species and habitat *co-evolve* and do so over millions of years. It is then impossible to disaggregate such interdependence and put values on so-called parts of what is an organically unified whole. It makes good ecological sense to value the whole, as it is the whole that ultimately supports life, including our own.

A movement from atomistic to holistic values is difficult to contemplate since most value in contemporary society is assessed in terms of individual items or units for human consumption. Current ways of valuing animals are also solidly 'atomistic' and apply as much to killing them for food as wanting them for display and amusement in circuses and zoos.⁹ The new view, by contrast, will require a re-evaluation of all forms of intervention in natural systems and will enable a critical appraisal of the different types of rehabilitation and release undertaken by individuals and organisations. From the ethical perspective of ecological justice, the interconnected whole is the one that needs more attention focussed on it and such a focus might mean that efforts to intervene at the level of individual animals or even individual species might be considered to be noble but misguided. Rather, resources that are scarce and valuable (including the resource of the community of research scientists and the rehabilitation community) should be redirected to the main problem confronting wildlife in Australia, fragmentation and complete loss of habitat.

⁹ The Animal Liberation Movement, when based on the ideas of Peter Singer, is also committed to the evaluation of atomistic units of ethical concern, the sentience possessed by individual animals and species. In addition, questions about the use of species without sentience are not within the realm of such ethics. Species without central nervous systems, all plants and whole ecosystems, do not then come under ethical consideration within this tradition. It is for this reason that those with a more ecologically orientated ethic clash with those whose focus is solely on individual animals or species.

The Rehabilitation, Relocation and Release of Individual Animals

At one level of analysis, an ethic of compassion, care and concern, which is at the core of human involvement with animals in need of rehabilitation and or relocation, is an expression of the very best of human virtues. Individuals who selflessly devote time and their own limited finances to animals in need are indeed followers of St Francis of Assisi. Such selflessness is even more apparent when native wildlife-carers risk their own health in the support some species. Those that care for Fruit Bats, for example, run the risk of the potentially fatal lyssavirus and morbillivirus if bitten by their patients. So at the level of an individual human, we would want to support animal carers as humane and virtuous individuals. From the perspective of the animals that benefit from such care, the opportunity to 'have a life' where one was previously unlikely must be seen as something positive. Where such animals can be returned to their previous habitat, then it seems that complexity and diversity are maintained.

However, it is almost invariably the case that the primary cause for the need for an animal to be rehabilitated is a major perturbation to the habitat of that creature by humans. The case of Koalas in Eastern Australia is instructive. Koala habitat is contracting because of a large number of human development pressures. Urbanisation, logging and woodchipping, road construction, increasing numbers of cars and domestic dogs are but some of the factors that cause injury to Koalas. Koala carers and vets, in conjunction with such institutions as the Royal Society for the Prevention of Cruelty to Animals (RSPCA), the Australian Koala Foundation and the Native Animals Trust Fund, do their best to rehabilitate injured and sick Koalas and return them to the wild.

It is apparent, however, that the very same pressures that lead to the need for rehabilitation in the first place have not been removed from the Koalas' habitat, indeed, they have most likely been magnified. All too often, animals are released, only to be found dead or in need of further help within a very short period of time. This problem is exacerbated by the fact that the animal has become habituated to humans and their environment and is thus more likely to place itself in a risky situation (for example,

close to dogs) in the future. The ethics of this situation become less clear. A well-intentioned and virtuous act inadvertently causes continued suffering on the part of native animals. In addition, the human resources put into the rehabilitation of individual animals are considerable with time and large amounts of money at stake. The veterinary expenses alone create pressure for more funding to cover costs. The tough questions must be asked in this situation, 'have scarce human and economic resources been used optimally?' Have the medium to long term animal welfare aspects of the situation been carefully assessed?

A possible solution to this dilemma is to place rehabilitated animals back into 'safe' areas but increasingly for animals such as Koalas, such safe places are likely to be fragments of urban bushland that have a very finite capacity to hold a viable population. Supplementary feeding is necessary to hold a number of animals that exceeds the carrying capacity of the remnant patch. Overcrowding may in turn lead to social and health problems within the captive population as normal spaces between and within the generations and sexes become constricted. Such areas also create an access problem because 'safe' means free from predators and this means investment into dog-proof fences. The Koala 'environment' becomes indistinguishable from a zoo where captive animals are held. Temptations are then strong to use the captive population as an ecotourism-education venture that has as its justification: the generation of funds to cover the costs of the rehabilitation of injured Koalas. What started as the ethical impulse of 'care' ends up enmeshed in the grey area of ecocapitalism and the imperatives of profit making. It was these same motives that led to Koala habitat destruction by other types of entrepreneurial activity in the first place.

Without expanses of habitat large enough for rehabilitated species to be safely released, the ethical impulse to care for animals is inexorably shifted from something unambiguously ethically good to something that has potentially undesirable consequences. I argue that such an outcome is the inevitable result of a focus on individual animals to the exclusion of ecosystems and the habitat requirements of the whole species. Where emotion overrides ecology, the result is likely to be negative for the species, and, in the medium to long term, negative for individual carers as their intensive efforts become increasingly failure prone. It is clearly contradictory to engage in emergency action that will inevitably

lead to an even greater need for more of the same action in the future. Intervention somewhere 'upstream' of the problem is urgently needed to break out of this contradiction.

Native animals live in fear of cars and dogs, but they also live in fear of those who rehabilitate and release them back into dangerous urban jungles.

Rehabilitation, Relocation and Release of Whole Species

The issues discussed above become even more pressing when the scope of reintroduction moves from individual animals to populations of whole species. In Australia, species based reintroductions and relocations have met with limited success, something that mirrors the international experience. In a study of 145 reintroductions of captive-bred populations worldwide, Beck et al concluded that under their criteria for success (see above), only 11% of reintroduction projects could be considered successful. Lack of reliable data hampered further and more detailed analysis and their study concluded:

In two years of intense searching we were able to acquire reasonably complete information on less than 50% of projects known to have reintroduced captive-born animals. Written information documenting reintroduction procedures and post-release outcomes for over 13 million individual animals fills less than one file draw.¹⁰

In Australia, case studies such as those on the Brush-tailed Phascogale¹¹ and the Marla¹² indicate that reintroduction is a very complicated affair with failure to implement appropriate fire management and heavy predation from mainly introduced ground predators the reasons for limited success. Other research,

¹⁰ Beck et al, 'Reintroduction of Captive-born Animals', p.281.

¹¹See T.R. Soderquist & M. Serena, 'An experimental reintroduction programme for brush-tailed phascogales (*phascogale tapoatafa*): the interface between captivity and the wild' in Olney, *Creative Conservation*.

¹²The Marla project has 'played a major role in alerting Australian conservationists to the importance of fire management and feral predators in the recovery of critical weight range desert mammals. It has also been responsible for preventing the last mainland representation of the species from becoming extinct.'

(<http://www.biodiversity.environment.gov.au/plants/threaten/brconf/brinkabs.htm#male>)

based on recent translocation experiments with both hand reared and wild possums in Victoria¹³ indicate that such animals are highly stressed by translocation and have a very high and rapid mortality rate. Such high mortality is thought to be connected to the aggression of resident possums and the inability of 'naïve' animals to safely navigate in an 'alien' forest environment.

Behavioural conditioning for predator identification and avoidance and the intensive acquisition of new environment skills might be ways of reducing the high rate of suffering and mortality in relocated animals. However, in addition to other costs, intensive training for predator avoidance and learning wild habitat 'life skills' makes the economics of such programs questionable. The need for intensive conditioning makes the very idea of re-introducing 'wild' animals into 'natural' habitat somewhat farcical.

In order to increase survival rates for relocations, active predator removal may also be required. However, this conventionally involves practices such as trapping, shooting and poisoning that have ethical implications of their own. It is now commonplace for the ethically motivated attempt to introduce or relocate animals to clash with the equally ethically motivated move to prevent cruelty and suffering to animals.

The case study of the Phascogales in Victoria indicate that without data on the ecology and behaviour of the species, the success of captive breeding and reintroduction programs is very limited. Soderquist and Serena indicated that '[u]nfortunately, the amount of time, effort and resources required to generate detailed ecological information about rare species of fauna is usually considerable'.¹⁴ It is self-evident that such information needs to be primarily generated 'in the field' by researchers who are prepared to get out of laboratories and study animals in their home habitat.¹⁵

¹³As reported by Peter R. Brown, in his paper, 'Current Scientific Research on the Rehabilitation and Translocation of Australian Wildlife' at the 1998 RSPCA Australia Scientific Seminar.

¹⁴Soderquist & Serena, 'An experimental reintroduction programme for brush-tailed phascogales', pp.437-8.

¹⁵This is not to say that all lab-based work should cease. Identifying genetically distinct sub-species is critical for strategic re-introductions and this can only be done with lab-based work.

Overall, despite the best efforts and good will of those involved, the track record of relocation and re-introduction programs has been very poor. If anything, animals in these programs seem to experience higher degrees of suffering 'in the wild' than what they would experience if they were culled or placed in 'safe' environments such as zoos. At the very least, those concerned with animal welfare must seriously question the rationality of throwing energy and resources at a problem that is not being helped by their actions. As habitat continues to contract, the likelihood of failure in rehabilitation and relocation will continue to increase.

A Case Study: The Koala in Eastern Australia

One species with a long history of intervention and relocation is the Koala in eastern Australia. Historical evidence suggests that the species was rare or absent from the open forests and woodlands of the west and coastal areas of Victoria in the first half of the nineteenth century. From this time onwards, the Koala has been involved in a roller coaster ride in terms of its population and the health of the species. It seems that the degree of direct human intervention is the most crucial determinant of Koala numbers in any one point in time.

In pre-European times, the Aboriginal people would have kept Koala numbers in check since they ate Koala flesh and may have used their pelts for furs.¹⁶ The Aboriginal relationship with the Dingo may have also helped keep Koala numbers in check since Dingos are known Koala predators. The burning of forest to keep it open and free from wildfire may also have restricted Koala habitat and hence potential expansion of the population.

The extermination and relocation of the Aboriginal people by European diseases, frontier war and colonisation removed a major predator and consumer of the Koala and allowed a new ecological succession to emerge. Furthermore, as colonists poisoned Dingoes and changed fire regimes, the Koala was given even greater habitat to invade. As observed by Parris in the lower Gouldburn River district:

¹⁶ Photographs exist of Victorian Aborigines (c1877) dressed in full-length possum-skin coats sewn by bone needles. See T. Flannery, *The Future Eaters* (Reed, Sydney, 1994).

Koalas were unknown in the district when it was first settled in 1839, but a few were present in Red Gums along the river in the 1850s. By the 1860s Koalas were abundant and in the following decades were described as being "in thousands".¹⁷

However, later in the century as the fur industry expanded, human predation on Koalas again became a major factor in their range and numbers. The international demand for fur was such that in 1924 'over two million (pelts) were exported from the eastern states'.¹⁸ By the 1920s, the whole species was depleted to such low numbers (500 individuals) that many feared that it would become extinct in Victoria as it had done in South Australia.

In order to save the species in Victoria, animals were relocated to offshore islands where they generally thrived. Without any immediate natural restrictions to expanding their numbers, these island populations rapidly expanded leading to overbrowsing of the vegetation with consequent death, disease and starvation in the Koalas. As related by Menkhorst:

In 1944, following a public outcry, the remaining 1314 Koalas were taken from Quail Island to alleviate serious overbrowsing which had resulted in many deaths and 1367 were also removed from Phillip Island.¹⁹

The translocated animals were placed in release sites on the mainland and it is now the case that the species covers most of its former range and in numbers that put it into the 'non-threatened' category in Victoria. In a note of warning, however, Menkhorst suggests that 'a level of population control in *Chlamydia*-free populations may be necessary as unoccupied sites for release become fewer'.²⁰

More specific Koala relocation studies indicate that populations can thrive in new environments. As argued by George Wilson:

¹⁷ Parris cited in P.W.Menkhorst, ed. *Mammals of Victoria: Distribution, Ecology and Conservation* (Oxford University Press, Melbourne, 1995), p.86.

¹⁸ W. Lines, *Taming the Great South Land* (Allen and Unwin, Sydney, 1991), p.171.

¹⁹ Menkhorst, *Mammals of Victoria*, p.86.

²⁰ *Ibid.*, p.88. It must also be noted that the Phillip Island population was a source of the bacterial disease *Chlamydia*, which is now widespread throughout eastern Australia. Translocation of individuals from that population was stopped in the late 1970s.

From 1972 to 1974, 19 koalas were introduced at the Narrandera Nature Reserve on the Murrumbidgee River...Ten came from French Island and the others from the north coast of NSW. They appear to have adapted well to the diet of *Eucalyptus cameldulensis* - River red gum. An annual count is performed on the population during which more than 30 animals are counted. They are distributed on the Nature Reserve and the adjacent common. The total population is estimated at over 100 koalas.²¹

Such a success has prompted Wilson to suggest that the solution to Kangaroo Island's overpopulation of Koalas is to relocate them to areas along the Murray, the Murrumbidgee, and the Lachlan Rivers where there exist 'many thousands of hectares of suitable habitat without koalas'. It is argued that this option is preferable to culling the excess population (thought to be about 2000 animals) or relocating sterilised animals to the south east of the state of South Australia. As it has transpired, the government of South Australia has proceeded with a Koala rescue program that has avoided the culling of the excess animals on the grounds that the mass killing of a national icon would be unacceptable to many Australians. In order to control numbers, surgical sterilisation of over 2000 Koalas has been undertaken and up to 800 sterilised individuals will be relocated from Kangaroo Island to the mainland. The cost of this program is in the vicinity of \$635,000.²²

Such a case study highlights all of the ethical and ecological dilemmas outlined above. These range from public outcry over the suffering of starving animals, equal outcry over the possible culling of excess animals and the suffering this would impose, the intervention of surgery on individual animals and the distress this would cause, the expense of relocation, culling and surgery and the ecological implications of relocation to Koala-free habitat. As is almost always the case with complex adaptive systems, nothing is simple.

A key problem with the Wilson proposal is that the likely impacts of a new species on a habitat that is already under pressure from clearing, firewood, salinisation and disease are not predictable.

²¹ <http://www.awt.com.au/koala/Historyform.html>

²² See Drew Laslett, 'Is relocation the Solution to Overpopulation-A case Study of Koalas of the Kangaroo Island', paper at the 1988 RSPCA Australia Scientific Seminar.

While the relocated Koalas may thrive for some time, they could destroy the environment into which they are introduced. Although not an island in the true sense, the forest they are to be relocated to has boundaries that are shrinking under the pressures of agriculture and forestry. As the evidence from the Victorian experience would suggest, the Koalas would expand their population beyond the carrying capacity of what is effectively an 'island' of remnant River Red Gum. The whole relocation exercise then becomes self-defeating since once again there will be a public outcry over starving Koalas, the proposed methods of culling and the expense. The only difference this time is that there will be no Koala-free forest left for the starving Koalas to go. Again, we are faced with a clear contradiction between a good intention and an undesirable possible outcome.

The problem with the Koala Rescue Program is that while it may save public face, the resources it is consuming could more wisely be put into preservation of habitat and the conservation of species that are more threatened than Koalas. By not culling in the conventional way (shooting performed by experts) the scarce and valuable resources available for conservation get channeled in one major direction and set a precedent for future rescue actions. A 'charismatic' ethics then operates with only the cutest animals being singled out for our help and resources. The commercial temptation to 'recoup' some of the costs of such 'hands on' intervention by exporting 'excess' Koalas is great, with accountants not too sensitive to the ethics of keeping wild animals in captivity and politicians keen to be seen with cute and media attractive animals on a world stage. Koala politics and marsupial economics can deliver highly unethical outcomes for biodiversity in general, and Koalas in particular.

The Koala once lived in fear of Aborigines and Dingoes and because of this they were not involved in the overbrowsing of eucalypts. Well-intentioned relocation of Koalas has created a eucalypt forest that now lives in fear of its Koalas. Perhaps both Koalas and eucalypts live in fear of humans who have emotional, ethical and economic motives that fail to understand the biology of the species concerned and the complex ecological systems within which they exist.

Knowledge of Australian Marsupials

Having already highlighted the urgent need for basic biological, behavioural and ecological knowledge about our native animals, it is instructive to examine the current trends and priorities in mammalian research in Australia. Very few attempts have been made to systematically evaluate the type of work being undertaken and the mix of resources going into the conservation of indigenous fauna. Johnson has produced one such effort with respect to the conservation of the family of rock-wallabies. He examined the 50 scientific papers published on rock-wallabies from 1985-1994 and found that 34% focussed on genetics, 24% on biology, 16% on parasitology, 14% on survey and the least numerous were on conservation at 6%.²³ In addition he found that there is very little cooperation between management agencies and the research institutions such as universities and The Commonwealth Scientific and Industrial Research Organisation.²⁴ Johnson argues that in a period of diminishing resources, better networks between research and management could generate benefits for both the humans involved, and, importantly, the rock-wallabies themselves. It is likely that similar findings and conclusions could be made on virtually all other mammal species in Australia.

The pressures on those working in the major research institutions in Australia on the basic biology of species are now firmly in the direction of economic outcomes of research. No less a figure than Hugh Tyndale-Biscoe, the 'father' of marsupial research in Australia, has lamented the fact that it has taken a long time for the study of marsupials to become 'respectable research material' and that just at this historical point, economic rationalism is having a detrimental effect on its progress. Tyndale-Biscoe argues:

With the rise of economic rationalism another insidious notion has come to predominate: that if research cannot promise an immediate return on investment it should not be funded. This malign view of research funding is having a particularly serious

²³ K.A. Johnson, 'Improving Conservation Outcomes: The Partnership between Research and Management', *Australian Mammalogy*, 19, (1997), pp.315-317.

²⁴ Johnson suggests that the 'apparent segregation of research and management...is...probably an artifact of an evolving science rather than any designed segregation' in 'Improving Conservation Outcomes, p.317.

effect on the health of research into marsupials. The pity is that this is happening at just the time when research on several aspects of marsupial biology is coming to fruition.²⁵

In spite of this pronouncement, Tyndale-Biscoe also catalogues a number of developments in marsupial research that have important or potentially important economic benefits. Among them is research on the way marsupials can have rapid reproductive rates when environmental conditions are favourable. Specifically, research is directed at marsupial gamete storage and fertilised eggs and the potential to use this information to enhance breeding in domestic species such as cattle. Another possible economic use of marsupials is as a 'protein biofactory' where genetically manipulated (transgenic) cows could produce lactose-free milk based on the encoding of enzymes for such milk produced in marsupial mammary glands. Current research on immunocontraception is directed towards the control of feral possum populations in New Zealand. While control of the possum population has conservation objectives, it is clear that control of bovine tuberculosis is a major priority of the research.²⁶ It seems that the overwhelming interest in the genetic and reproductive systems of marsupials is being driven by economic motives.

Pre-eminent among such research is the Cooperative Research Center for Conservation and Management of Marsupials (CRCCMM). The CRCCMM has a key role in the contemporary study and conservation of Australian marsupials. Its total funding from the New Zealand and Australian governments from establishment in 1995 is 35.5 million dollars and its main objectives are outlined in the following statement:

Australia faces special conservation and management problems because of its unique marsupials. A research program that integrates fundamental and applied research is vital to the development of appropriate techniques for the management of captive and wild

²⁵ H. Tyndale-Biscoe, 'Prologue' in N. Saunders & L. Hinds, *Marsupial Biology: Recent Research, New Perspectives* (University of New South Wales Press, Sydney, 1997), p.2.

²⁶ In New Zealand in 1993/4 NZ \$7 million was spent on possum control to protect conservation values while NZ \$20 million was spent on possum control for TB management.

<http://www.newcastle.edu.au/departments/bi/birjt/jrcrc/nzpers.html>

populations. New Zealand shares our interest in marsupials because Australian marsupials were actively introduced and have become major pests. There are strongly linked research subprograms. The programs are gaining an understanding of fundamental aspects of marsupial reproduction and genetics strategic to the development of practical conservation and management tools and policies. These include gamete maturation and fertilisation and their endocrine regulation; genetic characterisation of reference species; applied research to develop such practical skills as: hormone-based manipulation of reproductive activity, semen collection, assessment, storage and artificial insemination; knowledge of processes threatening rare or endangered marsupials.²⁷

As an important component of these overall aims, the CRCs keep captive bred and wild sourced populations of Australian native animals. These are used in research to gain basic biological information about species. Both the intrinsic value of such information and the applied aspects of controlling population numbers and assisting rare and endangered animals to be reintroduced into the wild are offered as reasons why such populations are kept. Although detailed statistics are not available, many hundreds if not thousands of native animals are kept in captivity. Many are sacrificed each year by both CRC and Australian Research Council funded research on native animals which have population control or reintroduction of captive bred populations into the wild as one of their main rationales.

The problem with such research is that it is neither dispassionate nor disinterested. Because control of pests is an economic issue of considerable importance to New Zealand and pastoralists in Australia, it could be argued that valuable resources are going into researching a problem that has economic but not crucial ecological importance to the biodiversity of Australia. The biological control of pests has its own array of ethical problems linked to invasive experimentation on animals and risk imposition on non-target native species.²⁸ Having captive bred populations of native animals that will *never* have habitat that they can be reintroduced

²⁷ <http://www.dist.gov.au/crc/compend/envIRON/crcmm.html>

²⁸ It is noteworthy that the Commonwealth Scientific and Industrial Research Organisation identify only concerns about the potential impact of viral control of contraception of feral animals such as foxes, in counties where they remain as native animals.

into involves misleading the public about the motivation for the research and is an ongoing excuse for vivisection and the keeping of native animals in zoo-like conditions.²⁹ Under these circumstances, populations of Australian native animals currently being kept in Australian universities are the antipodean equivalents of Guinea Pigs. They exist *only* as laboratory animals to serve the interests of governments, science and the current dominant economic imperatives. Given the precarious state of many of the wild marsupials in Australia, this emphasis on the economic potential of our animals at the expense of their ecological viability is not defensible.

The scientists of Australia might be living in fear of their own funding sources but the marsupials of Australia just might be living in fear of research scientists and the politicians that manipulate them.

The organisation most responsible for research on biodiversity and the ecosystems within which it lives in Australia is the Commonwealth Scientific and Industrial Research Organisation (CSIRO). According to CSIRO:

Current conservation reserves comprise just over 5 per cent of Australia, but do not provide an adequate representation of our biological diversity. This is primarily because reserves are concentrated in areas left after land has been selected for agriculture, forestry or urban development. Even if we could afford to represent all of our biological diversity within reserves, some threats - fires, weeds and feral animals - are difficult to exclude, so that 'protected areas' are not really secure. Thus, the network of conservation reserves is important but it will never be sufficient for the conservation of Australia's biological diversity.³⁰

The meek acceptance of such a situation and the easy dismissal of the potential of a greatly expanded reserve network and the greater resources needed to manage such reserves is an indication that CSIRO is also having its policy directions strongly influenced by economic, not ecological considerations. With only 4.6 percent

²⁹ The Fat-Tailed Dunnart is now being used as a laboratory species for basic research into metabolism, anatomy and physiology. It is secure in captive populations but is still under threat in the wild.

³⁰ www.dwe.csiro.au/publications/laolprob.htm

of its 1997-8 budget allocated to biodiversity as compared with 33% for agribusiness and 18% for minerals and energy, it is not difficult to see where the research priorities of CSIRO lie.

Current government policy is exacerbating this problem in that it is forcing organisations like CSIRO and The Australian Bureau of Agricultural and Resource Economics to seek larger amounts of external funding. CSIRO will have 35% of its total income from external sources in 1998-2000. In addition, 'outsourcing' as an expression of the privatisation policy of the current government is reflected in the CSIRO claim that private landholders and developers will have to become effective environmental managers since effective management cannot be done within the existing public funding and reserve allocations. If there is already a lack of coordination between organisations like CSIRO, other research institutions and fauna management agencies, then the problems of coordinating thousands of individual private landholders to effectively protect biodiversity seem insurmountable. Again, the big losers will be native species and their habitat requirements.

Private Enterprise and the Reintroduction of Biodiversity

Given the declining investment in Australia's biodiversity by government and its partly tax-payer funded agencies, it is instructive to see if the private sector on its own is doing any better in the species and habitat conservation stakes. According to the publically listed company, *Earth Sanctuaries*, they are doing very well. Their own literature proudly proclaims:

Earth Sanctuaries has successfully reintroduced more species of rare and endangered wildlife, back into the wild, than all the National Parks, Wildlife Services and Zoos of Australia combined. While doing this it has also paid over 40% per annum return to its shareholders thus proving that conservation and profits can support each other. However, probably the most rewarding aspect is that, unlike government departments and non-profit organisations that can only care for the "grand" and the "cuddly", Earth Sanctuaries cares for the total bio-diversity. Earth Sanctuaries is the private sector alternative to the National Parks System.³¹

³¹ <http://www.esl.com.au/wlife.htm>

Earth Sanctuaries has attempted to put a commercial value on its fauna and translated that value into shares that can be purchased and traded on the stock exchange. As the stock market goes through its cycles of boom and bust, presumably, the value of the fauna owned by Earth Sanctuaries goes up and down. In the event of a stock market crash and the need to 'liquidate assets', one wonders what will happen to the 'natural capital' living in the reserves. The temptation to liquidate assets is great, with the value of say, Platypus, for overseas zoos and collections very high. The trade and sale of native fauna for large sums of money severs the connection to the conservation of 'total biodiversity' and the preservation of habitat and moves the organisation responsible into realm of bio-capitalism.

Ecological problems with populations trapped within islands have been noted above and these apply as much to Earth Sanctuaries as any other enclosed habitat. If rare and endangered species are concentrated within such 'islands', then the prospect of disease wiping out the whole population is very real. Indeed, something along these lines seems to have occurred in 1997 when the Rabbit Calicivirus Disease (RCD) was accidentally released by CSIRO in what amounted to a very poor experimental protocol on Wardang Island. John Walmsley, the director of Earth Sanctuaries has argued that RCD was responsible for killing 100 Burrowing Bettongs at Yookamurra sanctuary in the Murray Valley at the time of its 'release' in 1996-7.³²

Even if it is shown that RCD was not the agent, it is clear that some sort of epidemic was responsible for the deaths and that a considerable part of the 'natural capital' of Yookamurra had just been wiped from the 'bottom line'. Relying on private enterprise to hold captive significant numbers of rare and endangered species in small pockets of habitat is, in the medium to long term, a risky strategy. The vicissitudes of the market are bad enough, but pretending to be an island sanctuary in a sea of impacting threats such as fire, disease, accidents and vandalism is not in the long term interests of either endangered species or habitat. It could be also argued that predators such as Dingos and Quolls³³ are a vital

³² *The West Australian*, Sat., February 7, 1988, p.45.

³³ Flannery notes that the native carnivorous marsupial, the Quoll, killed about half the population of Brush-Tailed Bettongs that survived a bush fire in the south west of Western Australia. Foxes consumed the others. *The Future Eaters*, p.239.

component of a fully bio-diverse ecosystem and should therefore be an integral part of sanctuaries. However, having carnivores eat the 'grand and cuddly' in front of the cameras of the 'ecotourists' might not be supported by shareholders.

Australian animals live in fear of introduced predators, they also live in fear of entrepreneurs who build fences instead of condominiums.

Conclusions

This paper has argued that all strategies for intervention based on atomistic units of value are destined to fail to protect Australia's remaining biodiversity. Such atomistic units can be considered to be individual humans and their emotional need to care for sick and injured animals, individual animals, individual populations and species, a research community that has narrow economic outcomes and governments and private bodies that focus on individual parks.

While each of these domains has some justification in its own right, the ongoing loss of biodiversity and its habitat in Australia means that something continues to be fundamentally wrong. An individualistic ethic is appropriate at the level of an individual animal but becomes less so as we consider the forces which cause animals to need our care. Concern about the fate of starving populations of trapped animals is an appropriate and humane response until the longer term ecological damage done by relocation is taken into account. Research that gives us the technology and knowledge to captive breed, then reintroduces wildlife, is justifiable until it is evident that there is no habitat into which the animals can be reintroduced. Private providers of 'fauna parks' look superficially plausible but offer a very risky future, especially for rare and endangered species. Public reserves and parks, because they are non-representative of all ecosystems and habitat, their patchiness and small size, are currently inadequate to maintain biodiversity.

What is evident is that there is a lack of coordination between these different interests and others such as zoos and governments that have a stake in the future of biodiversity in Australia. What can unite such diverse interests is an ecologically derived ethic that integrates each type of concern and places it into the broader

biodiversity context. The need for transcontinental and transectoral institutions that have the task of coordinating the different components of the whole has never been greater. Such coordination bodies could then:

- * lobby on behalf of Australia's biodiversity to get a fairer share of public resources from governments
- * redirect fundamental fauna research from laboratory-based research with economic imperatives into field-based research on the ecosystem requirements of species
- * help train a new generation of field-based fauna researchers
- * recommend minimum reserves needed to maintain maximum biodiversity
- * redirect the energy of individual carers into projects that are tied to viable habitat requirements for the species concerned
- * evaluate the likely success of relocation programs in the light of ecological history and new knowledge
- * expand the known success of low risk predator control programs
- * incorporate indigenous knowledge into management strategies that maximise biodiversity
- * develop education strategies that highlight the importance of biodiversity to Australians

It may be the case that these policy outcomes would involve quite radical departures from what was previously accepted as the norm. For example, with the knowledge we now have on the role of indigenous Australians in shaping and maintaining the biodiversity that was here in 1788, there is a niche available for those concerned with animal welfare to play a more active role on the management of total ecosystem welfare. The new ecological approach to management might challenge the deeply held views of some that under no circumstances is it permissible to humanely cull wild animal populations. It might go even further and present a challenge to those who believe that we should not utilise, for example, the furs of such culled animals for practical purposes. At the very least, it should encourage those who care

about native animals to act so as to care and protect their habitat. This might entail a shift from wanting to hug Koalas to a desire to hug trees; a shift from individualistic ethics to ecological ethics.

Aboriginal people killed Koalas and other large marsupials for food and used their pelts for clothing and as a consequence, forests remained rich in biodiversity. As Flannery argues, all over Australia, but particularly in the arid zone, once the Aboriginal people 'departed' their country, the ecosystem became more homogeneous and the biodiversity less able to adapt and survive.³⁴ Humans can re-enter ecosystems to recreate past biodiversity but this requires that we understand the full complexity of predator-prey dynamics, population constraints and other ecological parameters such as fire frequency and size. Where such knowledge is lacking our best option is to make sure we protect continuous habitat that has sufficient biodiversity to be self-regulating. Anything less than this is likely to be inadequate and condemn our remaining fauna to the list of extinct species (see Table 2 below).

In the past, our biodiversity lived in fear of our ignorance. The fact is we no longer are killing our biodiversity out of ignorance. We know we are losing our biodiversity and we know what must be done to protect it. Our wildlife are now living in fear of our ecocide. It is a fear that can only be arrested when ecological ethics override vested interests.

Level of conservation	Human motives	human context	results
Individual animals	compassion care/emotion triage ethics ark ethics	carers voluntary organisations	no prevention more suffering contradictory human investment no active management
species	career mobility economic gain animal liberation	government bodies private bodies universities zoos	some biodiversity maintained no preservation of habitat fragmentary research contracting habitat

³⁴ Ibid., pp.237-241.

habitat	biocentric ethics Commercial gain	public reserves private parks and reserves	no prevention of habitat islands high risk to 'inmates' fragmentary policy contradictory values
ecosystem	gaian and ecocentric ethics	expanded: national parks world heritage biosphere reserves	biodiversity protected continuous ecosystem reserves active coordinated management non-contradictory investment

Table 2. The Matrix of Ethics and Biodiversity Protection Options

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Biography

Glenn Albrecht is a 45 year old lecturer in environmental studies at the University of Newcastle, Australia. He did his doctorate on organic unity and maintains an active interest in all things 'organic'. He teaches Australian environmental history, environmental ethics and environmental policy. He is a philosopher who works closely with environmental scientists and he also sits on the Animal Care and Ethics Committee at Newcastle University. His research interests include the philosophy of social ecology (ecoanarchism), ecologically sustainable development, wildlife and ethics and the history of Australian ornithology. He has a record of publications in all of these areas. Dr. Albrecht has been very active in conservation issues in the Hunter region where he lives and works and is a

foundation member of the Hunter Wetlands Trust and helped to create the Wetlands Centre at Shortland.

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He's the one

Simone Poirier-Bures

Nicky is standing over there by the edge of the field looking at something. He's the one that killed Caspar. He and his friend Rocco. We can't prove it though, since no one actually saw them, and we never found Caspar's body.

He doesn't notice me right away, then he does, and I watch the way his body suddenly goes on alert. He stares at me for a moment, and even though he's still fifty feet away, I can see his eyes. He starts coming toward me, and I stop where I am on the gravel road to see what he will do. As he gets closer, he slows his pace and starts crouching down, his eyes still fixed on me. It's as if he's in slow motion, one leg slowly going out in front of the other. By the time he reaches me his stomach is practically scraping the ground, and his ears are pulled back. It's what they do if they think you're more powerful than they are and they don't want a fight.

He looks up at me now with his weird eyes. One is brown and normal-looking, but the other is pale blue, so it looks fake, like a glass eye. I never know which eye to look at.

'Murderer,' I say to him. He just looks at me. So I say it again, not yelling, but low and quiet, and icy cold.

He takes this as a sign that it's okay to get up, and he does, though he's still doing his slow motion thing, and his ears are so far back his eyes are bulging. He begins to sniff cautiously at my right pocket.

'Not for you,' I say. 'Not for murderers.' I give him a hard look, and continue on my walk up the gravel road.

I have never liked dogs. I'm a cat person. What I carry in my pocket is for my own protection. People are very inconsiderate when it comes to their dogs. They must think people enjoy having a strange animal bark and snarl at them and nip at their pant legs when they're trying to have a pleasant walk or run. I like to keep things friendly, so I always come prepared. It's amazing what a biscuit will do to tame up a snarling dog.

There's a leash law, even out here in the county, but most people ignore it. Most of the loose dogs stay pretty close to home, though. Guarding their turf, my husband calls it. But others, like Nicky, think they own the world.

I used to chase him off our land whenever I saw him. There was Caspar to think about. I'd yell 'Go home! Nicky, go home!' and sometimes wave a broom. After a while he'd cringe when he heard my voice, even if I was just out talking to a neighbor and he happened to be around.

I can't believe he's following me now, but he is. He's never done that before. I turn and look behind me and he stops. When I stare at him, he starts slinking toward the ground again.

Once, during our first year here, I looked out the window and saw Nicky chasing Caspar across the back yard. I ran out on the deck and hollered 'Nicky!' just once, as loud as I could, and he stopped right in his tracks. Caspar bolted up the back steps and into the open door. He was three times his normal size, and his heart was pounding like a jackhammer.

He was six months old and already partially declawed when I got him. My husband surprised me with him on my 43rd birthday. His coat was still creamy, and his tips were a pale bluish grey. He would climb up on my chest and put his little paws around my neck and nuzzle and purr and look at me with his blue eyes. On days when we were home alone, he'd follow me from room to room.

Some people think I should have kept Caspar inside all the time, since he had no front claws. But Caspar loved to go outside and it seemed to me that he had a right to. We have five acres of nice rolling fields full of brambles and wild flowers and brome. I figured if we watched him, and he had places to hide, he'd be okay.

'You're a despicable animal,' I say to Nicky, and continue along the road up toward a cluster of houses.

Most of the dogs around here aren't bad ones. Not like Nicky and Rocco. You just have to get to know them a little. Like Juliet here. She starts barking as I approach, but when she sees it's me she

smiles and comes running. She's a big orange something--I don't know breeds, but she looks like a fat woman stuffed into a thick red fox fur coat. When she runs, she heaves her head up and down, like a work horse straining with a heavy load. Secretly I call her Miss Piggy. She snorts and pushes me a little with her wet nose and I reach into my pocket and give her a biscuit.

In a moment Basil appears. He lives next door to Juliet. And then Pepper, from the house after that, comes lumbering over. I give them both biscuits and they chomp them down and wag their tails. By that time Juliet wants another, so I give them all an extra half. Pepper was hit by a car once so he limps. He's allergic to fleas; I can see the scabs on his back where the bites festered. He and Juliet and Basil are pals, and hang out together.

Nicky watches all this from a little way back. He looks like a coyote. At least how I think a coyote looks--dark and wild and sinewy. Except for his eyes. I don't think any coyote has a blue eye.

Nicky is mostly a loner. Except when Rocco manages to get loose. I'll hear some wild barking and look out to the fields across the road and see a black tail and a brown tail moving fast above the tall grasses. In a little while a head will come up--Nicky's or Rocco's. Once I saw them in a field up the road playing with something. They were throwing it up in the air and catching it in their teeth and having a grand old time. Then I saw that it was a groundhog. I shuddered, wondering if it was dead yet.

I give Basil and Pepper and Juliet a pat and then I continue up the gravel road. When I turn on to the state road, I see that Nicky is still following me. As I go up the tarmac, he falls into step beside me. I can hear his hard leathery paws and nails clicking on the pavement.

It's dangerous on this state road, and whenever any of the other dogs try to follow me, I tell them to go home, and they do. Brownie used to live on this road, and she was run over by a car last year. She was a nice dog.

But I don't say anything to Nicky. He wanders out into the middle of the road and just barely gets to the other side when a car whizzes by. Then he ambles over to the yellow lines in the

middle sniffing something, and barely moves when another car comes. The driver gives me an ugly look. I wish I had a big sign I could hang around my neck that said: This is Not My Dog; I am Not Responsible.

I wonder for a moment how I would feel if Nicky was hit. I used to tell my husband that if any dog ever killed Caspar I would load up his .22 and shoot the dog. If I had caught them in the act, I would have, too. As it was, I only saw their tails and heads above the weeds in the back field one morning. I thought it was a rabbit they were hunting. I yelled, and they went loping down the road to someone else's yard.

When Caspar didn't come home that night, I hunted all over for him, and called and called until my voice was hoarse. I even put on my tall boots and started over to where I had seen Nicky and Rocco. But it was full of blackberry brambles and thorny wild roses and I had to stop. It may be just as well that I didn't find what I'm sure was there.

Nicky has found something on the side of the road that interests him, and he's sniffing at it enthusiastically. Dogs have amazing noses. I often wish I had a nose like that, although what I smelled would probably disgust me.

Caspar used to sit in the golden rod and Queen Anne's Lace for hours watching and smelling things. Sometimes he brought back birds and baby rabbits and ground squirrels in his mouth. I don't know how he ever caught them without front claws, but somehow he managed. I always scolded him, and tried to take whatever he'd caught away from him. But he'd run off and eat it. I fed him plenty, so it wasn't that he was hungry. It's what cats do, my husband always said.

I reach the stop sign, which is as far as I go, and I turn around and start back. Nicky turns with me. I can't believe he's come this far. We must be two miles away from where he lives.

When Caspar disappeared and I called all the neighbors to ask them to keep an eye out for him, I found out something interesting. Caspar used to go to the neighbor's a quarter mile away and stroll across her deck. He was quite a character, my neighbor said. I had no idea.

It's been five months now, and sometimes I still hear him. Only last month I got up in the middle of the night and ran down to the back door. It must have been a trick of the wind.

When we get back to the gravel road, Nicky goes on a little in front of me. I can see a callous on his right foreleg. It's dark and hard-looking, like the crust on an old wound. He sniffs at something and I pass him. I feel him notice, and pull himself away from the smell to continue behind me, as if we are together. Suddenly this makes me very angry. I turn to face him. His body goes on alert again.

'Stop following me!' I yell in my strongest voice. 'Go home!' He slouches down at my feet, and rolls over, exposing his stomach, the way dogs do to show submissiveness. He stares at me steadily, unblinking. I look first at his blue eye, the same blue as Caspar's, and then at his brown one. I wonder suddenly what it would feel like to sink my shoe hard into his soft belly. But looking at him there, stretched out as if to say, *Go ahead if it will make you feel better*, I don't feel angry any more. Just kind of sad.

I suppose it's possible that it wasn't Nicky at all. It could have been a groundhog. Some huge ones live around here, and Caspar may have gotten a little too nosy with one of their burrows. It may even have been a fox. Or, who knows? Someone might have picked him up and taken him home. He was a such a beautiful, loving cat.

I put my hands in my pocket and turn to go. There's still half a biscuit there, and my hand falls on it. I take it out and offer it to Nicky. He slinks forward and pauses, studying me, as if to say, *Are you sure?* Then, with his eyes still on mine, he takes the biscuit delicately from my hand.

Biography

Simone Poirer-Bures is the author of 'Candyman' (1994), a novel set in her native Nova Scotia, and 'That Shining Place' (1995), a memoir of Crete. Both books were published in Canada by Oberon Press. Her prose work has won numerous prizes in the United States and Canada, and has appeared in more than 25 journals and anthologies. Simone is a member of the English faculty at Virginia Tech in Blacksburg, Virginia.

Towards a better press for animals

Denis Mahony

Environmental Education as an education of conscience

I work at environmental education. By this I mean that while environmental education is the major component of my professional life, it is not confined within these boundaries. How I eat and travel, what I buy, where I put my waste, the judgements I make about the actions of government, industry and business, increasingly invade the formerly comfortable realms of my consciousness and conscience. This whole process constantly challenges me to reinterpret what environmental education means.

I would like to comment on two aspects of this. Firstly, when I seek to apply this change in my thinking to the subject's rationale, I am most comfortable in placing it in the domains of epistemology, ontology and ethics; epistemology because I see this way of knowing as experiential and subjective, rather than expert and objective. I look to ontology and ethics because, when I seek to simplify the plethora of definitions that introduce environment education documents, I find they are essentially about the human-nature relationship, and about how far to extend human compassion into the non-human world.

The second point is that change is the central focus of this understanding of environmental education, whether viewed from a personal perspective, as I have recounted, or as something affecting whole societies. This change is made more problematic because of its intrusion into personal space, and because it confronts commonly held/hidden understandings of human epistemology, ontology and ethics.

The environmental education literature shows a preference for discussing these matters in the generalised language of 'world view', 'ideology' and 'paradigm shift'. Much of the writing presents environmental world views or ideologies as vigorously contested, with a basic polarisation resulting from human-centred and nature-centred poles. Two and four-category representations

predominate. The first distinguishes the Dominant Social Paradigm (DSP) (low valuation on nature, compassion restricted to those near and dear, accepting risks in order to maximise wealth, unlimited growth, and satisfaction with present society and politics) from the New Environmental Paradigm (NEP), which challenges each of these value/belief positions.¹ The second commonly subdivides the DSP into Cornucopian and Accommodationist/Managerialist ('Light Green') positions and the NEP into Deep Ecology ('Dark Green') and Social Ecology ('Red Green') positions.² Ecofeminism is a particular orientation of Social Ecology.

While a challenge to change our ideas, values and beliefs is central to the New Environmental Paradigm, in the four part scale, the focus is more on defining variations of the original classification, and the reader may form the impression that these are equally-spaced positions on a continuum. It is true that, in the West, 'deep green-ness' has dragged the fulcrum of environmentalism from the Cornucopian to the Light Green position.³ But as Sharon Beder has argued, there is a fundamental discontinuity between the Light Green and Deep/Red Green positions⁴ which my own research supports.⁵ The environmental education literature seldom ventures into the areas of subjectivity and experiential knowing, which together form the pathway which has led me to my understanding of what environmental education is. It is consistent with this epistemology to view the collective education part of this as a sharing of our individual stories, a process which respects subjectivity and experiential knowing, while contributing to the search for a change in the collective human-nature relationship.

¹ There are many variations of this in the Environmental Education literature. I have drawn mine from John Gien, *Education for the Environment*, (Deakin University Press, Geelong, 1993), p.25.

² Ibid., p.27.

³ Timothy O'Riordan, 'On the Greening of Major Projects', *The Geographical Journal*, 156, (1990), p.144; see also D. Scott Slocumbe, 'Environmentalism: A Modern Synthesis', *The Environmentalist*, 4, (1984).

⁴ 'Activism versus Negotiation: Strategies for the Environment Movement', *Ecopolitics V Proceedings*, ed. Ronnie Harding (University of New South Wales, 1991).

⁵ 'Taking a Position: Subjectivity, Paradigm Shift and a Critical-Interpretive Approach to Environmental Education', in press for *Ecopolitics X Proceedings*, (Australian National University, 1998).

Stories which I and others tell about paradigm shift experiences are sometimes based on a 'critical incident'.⁶ As understood in traditional biographies, a critical incident refers to a significant change or turning point in a person's life, but David Tripp adds another meaning:

I extend 'critical incident' to include the commonplace events that occur in the everyday life of a classroom. Such incidents are rendered critical by the author by being seen as indicative of underlying trends, motives and structures, and are often presented to teachers in the form of a dilemma in which they have a choice of at least two mutually exclusive courses of action.⁷

I have applied Tripp's concept to an insight into the discontinuity between the Light Green and Deep/Red Green positions, which constitutes a breakthrough in the dominant culture's conditioning of our environmental ideology. It is akin to the conversion experience described in detail by Nancy Dudley.⁸ In my case, subjective research, via a critical incident, audited my values and brought me to identify with a forest community. This was not a totally pleasant experience: I discovered that I loved and championed the forest to the detriment of my desire to be accepted by some of my human community. At times I felt angry, sad, determined, alienated, insecure - but beyond all this, I was sure that this was where I wanted to be.

I suspect that critical incidents are rare experiences, and not something that can be easily incorporated into an environmental education context, although the experiential education methodology can attempt to do so.⁹ The term 'conscientisation' refers to an adjustment of our moral judging to include what may be good or bad for the natural world, and is seen as contributing

⁶ Denis Mahony, 'Green Stories: The Experience of Environmental Commitment', Earthlinks '97. *Proceedings of the 9th Biennial Conference of the Australian Association for Environmental Education* (University of Tasmania, Hobart, 1997). See the stories told by Denis, Mary and Col.

⁷ 'Teachers' Lives, Critical Incidents, and Professional Practice', *Qualitative Studies in Education*, 7, (1994), p.69.

⁸ 'The experience of changing to a new world view: A phenomenological study of the emergent paradigm shift'. A Doctor of Philosophy Dissertation, (University of Victoria, Canada, 1987).

⁹ See Barry Law, 'Experiential Learning in Environmental Education', *World Heritage Visions and Values*, Biennial Conference of the Association for Environmental Education, (September, 1994, Cairns, Australia).

to an education *for* the environment, within a critical pedagogy.¹⁰ In this respect it exemplifies the experiential-subjective epistemology I have been advocating. The remainder of this discussion will be based on this conscientisation approach.

It is not so difficult to accept the challenge to adjust our consciences to include compassion for non-human creatures when a particular environment or species is presented as being under threat, and occupies centre stage. In these cases, the battle lines are clearly drawn, and press reports commonly look to representatives of the human and non-human ethical positions to state their opposing cases. My concern here is with *informal* environmental education, where animals are included in the content of a press report, but the values they represent are not the primary focus. In such instances those interviewed, the journalist, editor, or illustrator, inadvertently teach readers about the worth of the animals. In this scenario, I argue, there is an obvious need to look to our conscience for a moral judgement.

Press coverage of selected animals and habitats

My purpose here is to illustrate this incidental cultural representation of animals in the press in three categories: animals in the wild, domesticated animals, and the places where animals live. My selection of newspaper extracts is not the result of a systematic survey, but a concentration of my ethical attention on the values being assigned to selected animals as I did my usual reading of local, regional and national Australian newspapers. I have in fact been tracking my own conscientisation, flowing on from the 'critical incident' awareness that commenced when I read the chapter on animal testing and factory farming in Peter Singer's *Animal Liberation*, and which was further advanced when I felt compelled to intervene for the sake of my local forest community.

Among references to animals in the wild, larger animals living in the ocean appear to be objects of ambivalent regard. While I have read of concerns about beached whales, the 'by-catch' from netting (including driftnets), the live fish trade to Asia, and occasional murmurs about the damage resulting from plastic flotsam and the shark meshing of swimming beaches, game fishing seems to be quarantined from any ethical attention.

¹⁰ Fien, *Education for the Environment*.

Extract one

'Shark catch sets record for boy'

It was first time lucky yesterday for Chad Nelson, who beat a NSW and Australian junior record by landing a 214kg mako shark. Chad, 10, of Swansea, had his first chance on the rod yesterday after accompanying his father, Mr Bob Nelson, for the past three months on game fishing trips on *Scotch Mist*, a boat owned by Mr. Col Hutchinson. The boat was in 65 fathoms of water off Merewether when Chad hooked the deadly shark with a 10kg. line. Four hours and five minutes later he landed his catch, exhausted. Chad's mother, Mrs Colleen Nelson, said last night that the previous junior record for a mako shark was set in 1988 with a 92kg. The new record would be verified with the NSW Game Fishing Association this week. The shark was dumped out to sea because its weight rendered it potentially harmful to eat through mercury contamination. Chad will keep the jaws as a memento.

The Newcastle Herald
29 March 1993

When I read this, I was struck by the contrast between the praise heaped on the boy and the negative esteem accorded to the shark. The article appears under a photo (twice the column space of the text) which shows a smiling boy with one hand resting on the head of the dead shark, which is suspended by its tail, the reporter tells us it was the boy's 'first chance on the rod', he only used a 10kg. line, and the four hours and five minutes activity left him exhausted. Meanwhile the shark is regarded as 'deadly' or at best an object (described as 'the shark', the boy's 'catch', or 'it', rather than a gendered being). There is no mention of how the shark felt about *its* four hour and five minutes experience, and after the weighing, photographing, and dissection to obtain the jaws for a memento (a symbol of deadliness?), its body was 'dumped' at sea because its flesh had been poisoned. The newspaper staff and, by inference, the game fishing interest group, seem oblivious to what I saw as an amazing denigration of this non-human animal.

Extract Two

'Catch of a lifetime for junior angler'

After four hours of "constant play" with a 109 kg striped marlin, Robert Besoff reeled in the biggest catch of his

life on Sunday evening and broke an Australian junior game fishing record in the process.

The 12-year-old Toronto High pupil had good reason to brag yesterday after breaking the junior record for striped marlin (105 kg), which is listed by the Game Fishing Association of Australia.

Robert caught the marlin on Sunday when he was fishing with his father, Paul, and friends on his father's 38ft Riviera game fishing boat, *Kazoo*.

Robert's mother, Mrs Debbie Besoff, spoke of her son's prize catch from her Fishing Point home yesterday while her son attended school.

Mrs. Besoff said Robert and her husband went to fish for sharks at a deep-sea location near the continental shelf known as The Canyons, 70km south-east of Swansea Heads.

"They were actually fishing for sharks out there," Mrs Besoff said. "Just a few weeks ago Robert was fighting a really big tiger shark for a few hours but he ended up losing it."

"But there are also some big marlin out there and this one actually took the shark bait."

Robert played the fish for four and a half hours before reeling it in. It was weighed about 8pm at the Swansea Game fishing Weight Station to qualify for the Australian record and junior world record.

"It's a really great honour as the Australian record he's broken has been standing for the past eight to ten years," Mrs. Besoff said.

"Four and a half hours of constant play with a fish is quite a feat; a marlin can knock a man around."

"It's a very difficult sport...and marlins are particularly hard to catch. They jump around a lot and they're fast swimmers and just rush up to the surface. You've got to keep the line taught [sic] all the time and it's very hard going; you've got a lot of weight on you."

"Paul's played fish and sharks for up to ten hours at times. You don't often get a really good catch when everything goes right. So many things can go wrong and that's what makes it such a triumph. Actually landing it close to dark and breaking a record...Robert's ecstatic."

With Robert a junior member of Lake Macquarie Game Fishing Club, Mrs. Besoff said the sport ran in the family, with her father-in-law, George Besoff, and her father and brother Jack and John Heathfield, well-known game fishermen in their time.

She said Robert had been fishing "since he could hold a rod", but became involved in game fishing only in the past 12 months.

To qualify for the junior world record, the equipment Robert used, including the rod and line, must be sent to the United States for verification for the world record. Mr. Paul Besoff said there was no junior world record for striped marlin and the category was vacant as it was created only recently.

*Gillian McNally
The Newcastle Herald
22 April 1997*

There are some similarities with the previous extract. There are two photographs occupying twice the column space of the text, one replicating the boy-and-dead-animal pose, and the other showing the boy with rod under full strain, over the stern of his father's boat. Again the focus is on a boy's achievement in establishing a record. It is a great honour, a triumph, which makes the boy justifiably ecstatic and gives him 'good reason to brag'. It took a similar time to accomplish (about four and a half hours). Although the striped marlin is not represented as inherently dangerous, 'a marlin can knock a man around'. We are not told about what happened to the fish after its death and the weighing-photographing ritual, but the report suggests that the value of these animals lies only in their capacity to be 'played', and so hooking the marlin was a bonus beyond the intended sharks, because the former will intensify the battle/victory experience for the humans.



Figure 1. The Newcastle Herald 22.4.97

This story is also used by Lewis, the newspaper's cartoonist, to satirise a political event (Figure 1). The cartoon depicts a white-coated 'judge' distracted from his task of taking details from the boy (posing alongside the marlin), by an Australian fisherman/prime-minister gesticulating about his 'one that got away', seen in the background as an enormous senator-fish, which has battered the prime minister, wrenched his gear and sunk his boat. Two additional messages are conveyed: there is a characterisation of undesirable human qualities by fitting them into animal form which I will discuss with regard to some other examples; and in this cartoon the marlin trophy has a winner's rosette attached, inscribed with 'Aussie Record', which to my mind reinforces the 'Australian-ness' of the activity - a healthy outdoor sport, winning against the odds, and in a family setting. Confining the value of the marlin to a 'prize catch in this patriotic context, makes a contrary sentient valuing even more difficult.

Extract Three

'Record marlin catches off Port Stephens'

Phenomenal results from game-fishing tournaments out of Port Stephens during the past two weeks has elevated the "blue-water wonderland" to one of the world's best marlin waters.

The result smashed the 1000 tagged marlin milestone, which is more than any tournament in the world.

In seven days of fishing, 1340 billfish were caught, and in modern game fishing with the accent on conservation and tag-and-release very much the norm, only 36 were taken and weighted.

The NSW Inter-Club Game Fishing Tournament, held each year has always been considered one of the premier game-fishing tournaments, even by world standards, and was held over the past two weekends.

Between the weekends, Monday was Ladies Day and on Tuesday and Wednesday anglers fished in the Australian International Billfish Tournament.

During the first two days of fishing there were an incredible 543 marlin tagged and released by 230 boats.

Normally a day's marlin fishing is considered successful if a boat has half a dozen strikes and hooks up two fish, but during the tournament boats were reporting anything up to 20 strikes with 10 and 15 tags.

On Monday, 59 boats fished in the ladies-only competition and tagged 68 marlin, while on Tuesday

and Wednesday another 259 marlin were tagged, with last weekend pushing the total to 1340.

The marlin have come down the coast with a warm tropical current which has pushed the water temperatures up to 26 degrees, and contains huge schools of bait fish which the marlin are feeding on.

*Fred Studden
The Newcastle Herald
3 March 1997*

This extract reports on a seven day game-fishing competition offshore from a marine-based holiday resort some hundred kilometres north of Sydney, during which 1340 marlin were caught. As well as giving details of the catch, the reporter makes two points. The first notes that the total score is a new international record for such a tournament, which 'elevates the "blue water wonderland" to one of the world's best marlin waters'. This is another example of accrediting game fishing by providing it with contemporary cultural values. In this instance it is another Australian winner and a means of attracting tourist dollars. The second point relates that all the marlin except 36 were tagged and released, which typifies 'modern game fishing with the accent on conservation'. While this is undoubtedly an improvement, I would regard the statement as a very human-centred idea of conservation, once again with no recognition of the marlins' perspective. This is also illustrated by the caption under one of the photos accompanying the text, referring to a marlin 'dancing' across the ocean after being hooked.

The final illustration in this group is a photo showing two Australian test cricketers on tour in South Africa (Figure 2). They are framed by two dolphins leaping high out of the water in unison, and the caption makes a word play on 'flipper', associating the dolphins' limb with a bowler's trick ball. Probably few would object to the association made here, but my conscience is unhappy not only with these animals being held captive and made to perform for human pleasure and gain, but the added trivialisation and reinforcement of their condition, by the dolphins being made to carry some banter about Australian cricketing prowess. The last is a source of considerable national pride, and there is a subtle value transfer implied of a similar kind to that intended by cigarette advertisers, where a wholesome

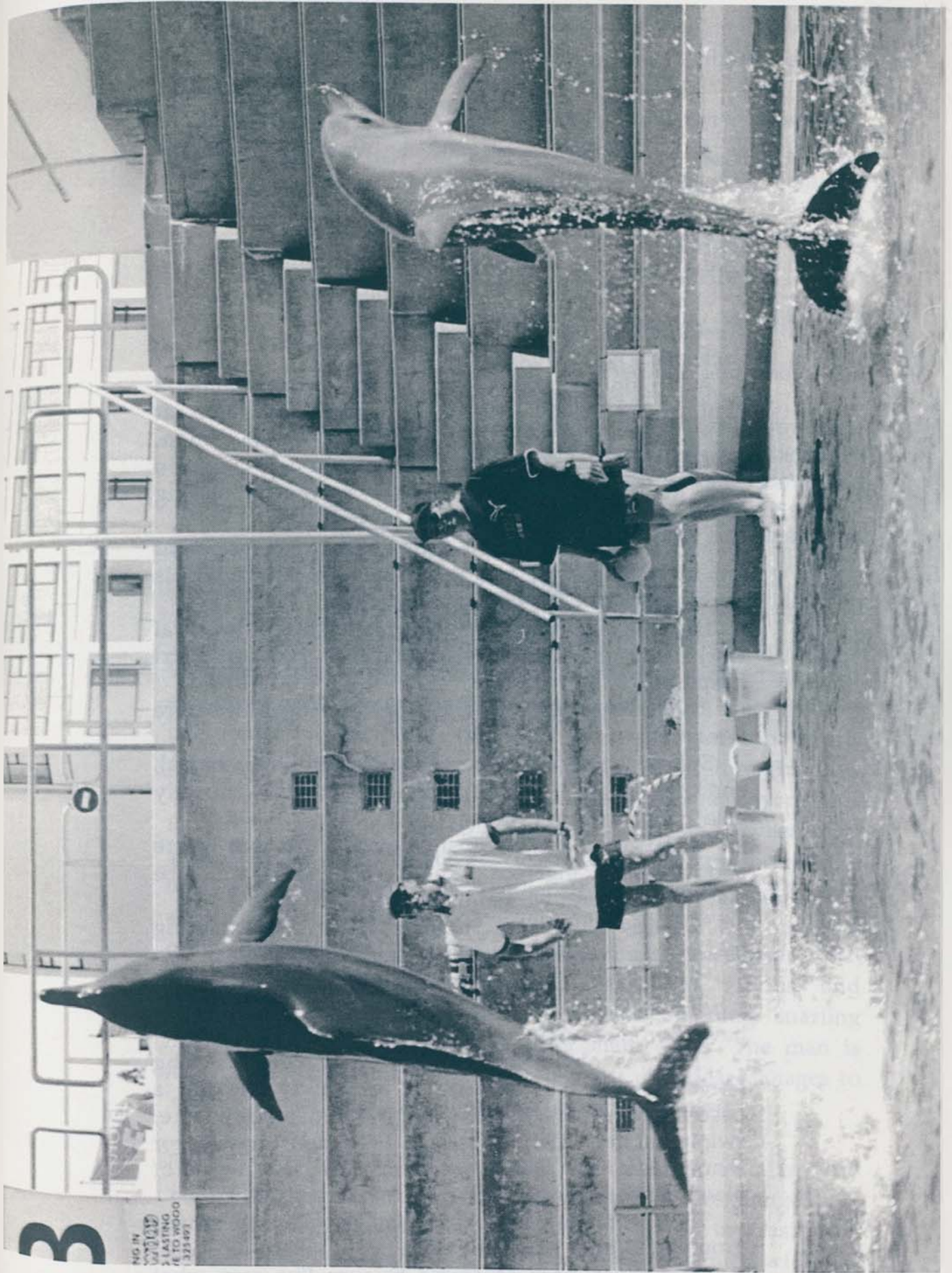


Figure 2. The Sydney Morning Herald 15.3.1997.

value (like enjoying outdoor recreation) is associated with one that is ethically questionable.

The next extract is different in that it does not exhibit the bland indifference of the fishing people and the reporters to the sea animals. Instead the animal is 'demonised'.

Extract four

'Vicious kangaroo attack'

Weston man's horrifying ordeal.

Exclusive: David Quick

A Weston pensioner is still in a state of shock after a fight to the death with a huge rogue kangaroo at Richmond Vale on Monday. The 71-year-old man, Mr. John Hall, was attacked by the monster kangaroo early Monday morning while he was quietly picking mushrooms and says he is lucky to be alive.

Mr. Hall suffered severe lacerations to his face, right arm and stomach but was able to stay the beast with his pocket knife in a close quarters struggle.

His cries for help were eventually heard by rural workers in the area who rushed Mr Hall to Kurri hospital.

He was later allowed home after treatment for severe lacerations.

Still dazed and weak from the extraordinary ordeal, and with one arm encased in plaster, Mr Hall was barely able to talk about it yesterday.

"I had often picked mushrooms in the area before and had seen kangaroos. I know from experience to be wary of them and we simply ignored each other."

"On this occasion, though, it might be the mating season or something, it was different," Mr Hall said.

"I was bending down getting wild mushrooms and when I stood up the roo was rearing over me. He must have been more than 6ft to do that."

"He was obviously cranky and making snarling hissing noises. I tried to gently back away thinking a peaceful retreat might work but the roo followed me, swiping at me with his forelegs. Each time those razor sharp claws took lumps out of my arm. The smell of blood seemed to make him more aggressive."

"The next thing I know he had knocked me to the ground and then I knew I was in real trouble."

"I've never been so scared because I've seen what these things can do when they rake with their back legs."

"I'll never get over it. Normally I pick the mushrooms, but on Monday I had decided to use my small pocket knife instead and as real good luck would have it, it was in my hand."

"Without it, I wouldn't have had a chance. I was so terrified that I really didn't know what was happening but no matter how old you are, instinct for survival makes you fight like hell and I instinctively stabbed at the beast, all the time shouting for help and realising what little chance there is of killing a big roo with a pocket knife."

"I feel it was largely my own fault in being too complacent, a false sense of security."

Mr Hall, who was born in Abermain and knows the bush well, says his ordeal is a lesson for others.

"I didn't want this publicity, but to get the message across that all these animals are dangerous. Even in a park, I wouldn't let a child go near a kangaroo or an Emu."

"I'm lucky to be alive - what chance would a child have?"

The Advertiser

11 January 1995

It appears that this man had a frightening and dangerous encounter with a kangaroo. The manner in which this event is interpreted reveals not only the expected anthropocentric perspective (tempered here by the throwaway line, 'It might have been mating season or something.') but it also goes far beyond this to rewrite the event as an epic and heroic struggle between man and beast. The lines of battle are clearly drawn by representing the man as aged (and a pensioner), (almost) defenceless, engaged in a simple rural activity ('quietly picking mushrooms'), and avoiding confrontation ('I know from experience to be wary of them.'). But the beast is a 'monster' and a 'rogue', 'cranky', 'vicious' and 'aggressive' (particularly after it smelled blood), emitting 'snarling hissing noises', and armed with 'razor sharp claws'. The man is forced into a 'fight to the death' and, against the odds, manages to 'slay' the beast with nothing but his pocket knife.

The story has a moral, delivered with the authority of a man who 'knows the bush well', that 'all these animals are dangerous', particularly to children. It is instructive to contrast this interpretation of a frightening and dangerous encounter with Val

Plumwood's unadorned narrative of her near-death crocodile experience.¹¹

The media reconstruction of these events illustrates well that 'deep-seated fear of "non-human" nature [which is] portrayed as evil, random, and innately aggressive' described in Doyle, Dyer and Stratford's report on the media coverage of the 1994 New South Wales bushfires. 'Bushfires, along with earthquakes and floods are media events par excellence. They show how fearsome nature is at work, how weak and how vulnerable humans are'.¹²

I turn now to domesticated animals.

Extract Five

'Egg firm awaits Lake go-ahead'

Ringal Valley Pty Ltd, the Lake Macquarie egg company that has agreed to run the egg farm proposed for Green Point, has indicated that it may have to leave the region if the project does not go ahead. At the same time, the Newcastle branch of the Animal Liberation group has signalled that if the development does proceed it will stage protests at Green Point, with the backing of the organisation's national office.

An Animal Liberation spokesman, Mr. Mark Pearson, said yesterday that the group would initially lobby members of Lake Macquarie City Council to try to have the 120,000-hen egg farm refused.

The managing director of Ringal Valley, Mr. Ian Livingstone, said yesterday that his family's firm had lent its support to the project as a way of updating its own production equipment and complying with new State Government regulations that will, from 1995, require larger cages for battery hen farms.

Mr Livingstone said there was no other land in eastern Lake Macquarie large enough to accommodate the sort of modern egg facility that Ringal Valley has been asked to manage by the owners of most of Green Point, McCloys Pty Ltd.

He said the company had already been looking at moving to the Tamworth area, where it already had

¹¹ 'Kakadu: The Land of the Crocodile', *Australian Wilderness Series No. 2* (Kestral Films Production, Richmond, Victoria, 1989).

¹² Tim Doyle, Ken Dyer and Elaine Stratford, 'The 1994 New South Wales bushfires: Three Voices from the Wilderness', *Ecopolitics VIII. Proceedings* (Lincoln University, Canterbury, New Zealand, 1995), pp.193-209.

four farms, before the McCloys offer was made and would do so again if the project did not proceed.

This included whether Lack Macquarie City Council refused approval for the \$3.5million egg farm, or whether McCloys shelved the plan in the event of gaining its preferred option of developing half of its holding for residential purposes and donating the rest for a public park.

"We have been farmers in this part of Lake Macquarie since 1938," Mr Livingstone said.

"Our intention is to continue living here because we love it."

"This is where our market is and this is where we want to stay."

"To get another opportunity like this we would need to move to Tamworth."

Mr Livingstone said Ringal Valley, started by his grandfather, had about 7% of the NSW egg market and employed 80 people at Belmont North, Wyong, Kurri Kurri and Tamworth. He said he hoped that the Green Point project did not become an animal welfare issue, because the planned egg farm was intended to be the most modern such facility in the world.

Birds would be kept in air-conditioned and humidity-controlled sheds, safe from predators.

At the end of their laying life they would be taken from the egg farm to a meat processing plant off Green Point.

"The success of a farmer depends on how he cares for his stock". Mr Livingstone said. "The welfare of our birds is our number one consideration."

But Animal Liberation's Mr Mark Pearson said the egg farm planned for Green Point would be a "concentration camp for birds".

Mr Pearson said that under current regulations each bird had a caged floor space less than the size of an A4 sheet of paper. That would increase to about A4 size after 1995.

Birds were placed under enormous stress, they constantly pecked at one another and their bones became weak from lack of exercise.

*Kevin Love
The Newcastle Herald
28 April 1993*

The newsworthiness of this issue derives at least partly from the fact that there is considerable interest in the future of this still undeveloped Green Point land on the shores of Lake Macquarie, a

large saltwater lake system on the southern side of Newcastle, New South Wales. This newspaper report is unusual in that the hens have a human champion, whose assertive statements (like 'a concentration camp for birds') force the egg company manager to justify his treatment of the hens. His arguments that the proposed project should not be regarded as an animal welfare issue are: that the facility will be modern; that the air breathed by the hens will be temperature and humidity controlled; and that they will be safe from predators. As reported by the newspaper, the manager's summative statement asserts that the interests of the birds are synonymous with those of the farmer. But these are clearly commercial interests: the hens are 'stock', and a 'laying life' equals their life term, after which the short trip to the 'meat' processing plant is the natural next step, unworthy of any justifying comment. This choice of descriptors illustrates how language can be used to narrow ethical considerations almost to the point of extinction, as Val Plumwood explains in her discussion of the *Babe* achievement.¹³ The telling confirmation here comes both from the manager's apparent belief that there cannot possibly be any animal welfare issue involved, and the prominence the newspaper gives to the implied economic consequences of non-approval by Lake Macquarie City Council.



Figure 3. *The Weekend Australian* 8-9.3.97

¹³ Val Plumwood, 'Babe: The Tale of the Speaking Meat', Part 1, *Animal Issues*, 1, (1997), pp.21-36.

My next concern is about the representation of pigs. All three examples are in the form of illustrations. Figure 3 illustrates a double page article on 'Why the free market is a danger to democracy', in which the author argues that in the post cold war period, the threat now comes from within. The laissez-faire capitalist ideology has spawned 'local tyrants' and some sovereign states bent on pursuing self interest with no regard for the common good. This important but intellectually weighty article in the general reading section of a weekend newspaper clearly needs illustrating, and the editor is not mean in allocating space. The figure spreads across both (large format) pages and measures a remarkable 51x22 cms. But even more remarkable to my conscience is the illustration chosen to convey this message about human greed. The Sturt Krygesman drawing is remarkably evocative; the flight of marauding pigs is tearing apart the cloth-like surface of planet earth with their teeth and 'hands' while dressed in pin-striped suit coats, and further adorned with large diamond rings, cigars and a dollar tattoo on their naked thighs. But it is their demeanour that is most striking: slobbering jaws are agape, showing huge teeth, or clamped tight over torn-apart earth fabric, with tusk-like molars protruding. Beady eyes almost lost in faces screwed tight with a lust to devour, they claw at each other to better get to their victim.

To my mind, the illustration carries a far more effective message than the text: perhaps about corporate greed, but also that pigs are a natural metaphor to illustrate human aberrations concerning heartless and violent greed.



Figure 4. *The Sydney Morning Herald* 10.4.97

The next pig illustration (Figure 4) combines filth with greed. This cartoon by Moir, in *The Sydney Morning Herald*, shows an Australian senator-pig wallowing in a huge black-muck-filled trough happily throwing fish skeletons etc. over himself, while other politicians (in their normal human likeness) are also in the trough, arguing heatedly with each other.



Figure 5. Illustration from a Leg Ham Wrapper

Finally, Figure 5 argues pig connivance with humans' decision to eat them (and by implication with the 'farming' methods involved). It comes from the wrapper of a full leg ham. The picnic theme is carried by the pig family (males only) partly dressed in human clothing suitable for the outdoors, in smiling relaxed poses. The human disguise is beguiling. I had to do a 'second take' to recall the reality of what really happens to the animal part under the wrapper's picture ('absent referents'¹⁴). But the amazing message here is that the pigs actually embrace their destiny as a picnic repast of humans, by becoming part of the marketing team. This manner of advertising is also used in the highly competitive cooked 'chicken' meat marketing, as in 'Henny Penny', which makes the barbecued poultry 'one of us', by commandeering the

¹⁴ Carol Adams, *The Sexual Politics of Meat* (Continuum, New York, 1994), p.40.

Australian custom of adding a 'y' to make a nickname. Notice also the appeal to (100%) 'Australian-ness'.

Finally, there are newspaper extracts that see environments as existing only for humans, ignoring any possibility that they may be homes for many other species.

Extract Six

'\$1.5m home for entire fishing fleet'

An interesting but tatty corner of Throsby Creek is about to undergo a \$1.5million redevelopment which will see Newcastle's entire fishing fleet moored together.

The NSW Public Works Department's Acting Regional Manager, Mr Paul Gilbertson, said yesterday that a contract would be let in the next couple of weeks for the four months work involved in extending the present jetty to add 25 new moorings to the current 24.

The 49 berths would be sufficient to house Newcastle's entire fishing fleet. Public Works was also building a car park to accommodate a further 28 vehicles, landscaping the area and including an amenities block for the fishermen.

Mr Gilbertson said the area of the creek around the existing jetty was being dredged to allow for the extra moorings and the 30,000 tonnes of spoil was being deposited on the Carrington side of the creek, between Elizabeth and Howden Streets.

The Newcastle Herald

9 May 1993

At first, uncritical reading simply absorbs a directory of public works which now enable all of Newcastle's fishing fleet, the boat owners, and their vehicles to be located at the one site with functional and attractive facilities. Re-read from a non-human perspective, there is a whole absent referent community here, described by the writer as a 'tatty corner of Throsby Creek'. It *was* an estuarine community, whose sea grasses, mangroves and salt marshes would have provided a nursery/habitat for fish, molluscs, crustaceans and birds, but which has now been dredged, smothered in 30,000 tonnes of spoil and 'landscaped', in order to accommodate a community of humans, boats and automobiles.

Extract Seven

'Police warn of drain cult'

A cult of ditch kids is growing up in the city section of Black Creek - Cessnock's open canal storm water drain system - a senior police officer has warned.

Senior Sergeant Gordon Gorton told the Advertiser this week that the concrete sided storm water drains provide a security screen, a playground and an escape route for everything from break and enters, drug taking, under-age drinking and smoking to just plain vandalism.

"Kids ride motor bikes from Nulkaba and emerge on the western side of Cessnock Ex-Services Club."

"It's a hot-bed not a river bed and is nurturing juvenile delinquency. Just look at the shopping trolleys, beer bottles and other things deliberately tossed into it." said Snr Sgt Gorton.

So far not announced is the fact that Cessnock Rugby League Supporters Club, which has a major stretch of the inner city water course running past its front door, is well ahead with plans for a \$4 million refurbishment to the building.

The plans will include putting a half million dollar lid on 50m of the watercourse, from the corner of the building to the pedestrian bridge joining the car parks, which will then become car parking.

Snr Sgt Gorton sees this as a possible opportunity to put a halt to the community's "ditch kids" problem.

"I don't know how feasible it is, but it seems to me that if the equipment and resources are there doing one section it may well be possible to cover in the primary problem section around the Plaza area at a reasonable and affordable cost," Snr Sgt Gordon said.

Mr John Knipe, secretary manager of Cessnock Rugby League Supporters Club has confirmed that development plans for the project will be put before council possibly as early as next week.

"It is true that we have had clearance from the Hunter Water Corporation to cover in our stretch of the canal. It is very early days yet and while we have met all the required specifications and conditions from the Water Corporation we have yet to get our DPA." he said.

The Advertiser
24 May 1995

The feelings of sadness I experienced when I reflected on the voiceless lost estuarine community were amplified when I thought of the original Black Creek community. The stream acquired its name from the Aboriginal clan which periodically lived on its banks and drew its food from the animal and plant life existing there. It does not require a lot of imagination to realise the contrast between that vital and varied Black Creek community and the present cement storm water drain harbouring a community of criminals. The earlier catastrophe in the stream community's demise occurred when its vegetation was removed and the stream's migrating meanders were confined within a u-shaped concrete structure. Concerns about 'a cult of ditch kids' now threatens to banish this part of Black Creek underground, providing a car park bonus in addition to a possible solution to the city's social problem.

Conclusion

I have argued here that environmental education is fundamentally subjective and experiential, and is concerned with a paradigm shift operating in both personal and social domains. This includes an extension of ethical concern to the non-human world, which in a pedagogical context is called conscientisation. I have endeavoured to illustrate how this works for me by drawing on the unintended but powerful informal education carried by the media, using newspaper extracts, illustrations, photos, cartoons and product advertising. What I have been sharing with you is in fact part of my journey-story, which I hope may contribute something to the humankind journey-story of rapprochement with the natural world. It seems to me that reflective story telling is a worthwhile epistemology for the kind of environmental education I have described, and I was greatly reassured to see this approach taken by Freya Mathews in the first article in the first issue of *Animal Issues*.¹⁵

My reflections on my own experiences convince me that the paradigm shift to an ecocentric position is demanding and evolutionary, as Dudley's detailed research indicates, and something we should think of sharing rather than teaching. Certainly it is a matter of creditability to me that I participate in this way. But the demanding element applies not so much to the adoption of the 'Light Green' accomodationist/managerialist

¹⁵ 'Living with Animals', *Animal Issues*, 1. (1997), pp.4-20.

ideology, which does not fundamentally challenge those contemporary social values and institutional structures that estrange us from the natural world. Rather we should consider the leap across the divide towards that identification with nature, commonly described as deep ecology or social ecology. I doubt if this is something we can achieve unconsciously, although I concede that we may well be driven to it as a consequence of a looming ecocrisis. But in so much as this change process can involve that 'mindful, willing participation' identified by Dudley, the 'critical incident' and conscientisation strategies have proved useful in helping me focus on human-nature values which have escaped cultural conditioning.

Biography

Denis Mahony lives in the Hunter Valley, New South Wales, Australia. He and his family moved there from metropolitan Sydney thirteen years ago, fulfilling a dream of building a home in the country. Nearly all the property is forested and abounds in native wildlife. He has formed strong attachments to these nature communities, and to the area's Aboriginal culture extending back some thousand generations. He works in the Faculty of Education at the University of Newcastle, teaching and researching in environmental and initial teacher education.

ISAZ

INTERNATIONAL SOCIETY FOR ANTHROZOOLOGY

ISAZ is a supportive organisation for the scientific and scholarly study of human-animal interactions. The primary aim of ISAZ is to promote the study of all aspects of human-animal relationships by encouraging and publishing research, holding meetings, and disseminating information. Meetings have focussed on a wide variety of topics including: attitudes to animals, companion animal welfare, methodologies in anthrozoological research, medical, social, and psychological aspects of human-animal interactions, ethological and behavioural approaches to the study of human-animal interaction. Membership is open to individuals currently or previously involved in conducting scholarly research within the broad field of human-animal interactions. Corporate membership is open to any charities, organisations, or companies which have an interest in the aims of the Society.

contact: <http://www.soton.ac.uk/~azi/isaz1.htm> or Dr. Deborah Goodwin, ISAZ Membership Secretary, Anthrozoology Institute, Biodiversity and Ecology, University of Southampton, Bassett Crescent East, Southampton, SO16 7PX, U.K.

Review Essay

de Waal, Frans, Good Natured: The origins of right and wrong in humans and other animals, viii + 218pp. Harvard University Press, Cambridge, 1996.

Good Natured is an elegant book, easy to read, beautifully illustrated and moderate in tone. Frans de Waal professes an aversion to dichotomy and, while he asserts his own views with confidence, he is rarely dismissive of the conflicting views of others. Nothing better illustrates this characteristic than de Waal's treatment of Richard Dawkins, one of the most vociferous exponents of the notion that human beings are born selfish. Although he questions the wisdom of anthropomorphising the gene as Dawkins does in the title of his book, *The Selfish Gene*, de Waal agrees with Dawkins that genetic self-interest at the expense of others is the basic thrust of evolution, but he also argues that, paradoxically, in some species, our own included, the selfish gene has given rise to unselfishness, to a natural capacity for caring and sharing which is the source of human morality.

It is de Waal's contention that there can be no satisfactory account of human morality without a consideration of evolution, but it is not the main purpose of his book to speculate on how morality might have evolved. De Waal's aim is to produce convincing evidence that many of the tendencies and capacities underlying human morality are to be found in other animals, especially in our nearest relatives. He does not claim that members of other species should be regarded as moral beings, nor does he undervalue our much-vaunted capacity for moral reasoning, he simply claims that the foundations of morality have been with us from the very beginning. We are by nature 'good' as well as selfish.

It may be appropriate, at this point, to reassure any potential readers who have an aversion to prescriptive views of human nature and who may be deterred by what they perceive as a whiff of biological determinism. The human nature of which de Waal speaks is remarkable above all for its plasticity. Like other members of the primate order, human beings are diverse as individuals, variable in their associations and capable of adapting

to even radical changes in their circumstances. In the human species, this last capacity has been so enhanced by advances in technology that it seems almost boundless, and de Waal does briefly speculate on the possibility that we may be in danger of pushing our adaptive potential to the limit. He leaves the question open, however, and at no time does he suggest that solutions to contemporary problems are to be found in the knowledge of our genetic heritage.

Whatever our predispositions are, it is clear that they do not provide us with specific norms, for these are far too variable to be genetically programmed, but de Waal suggests, nevertheless, that it is helpful for us to be aware of our predispositions, particularly if we are interested in changing the way we are, for predispositions may be consciously reinforced or repressed. Being something of an optimist, de Waal is inclined to the view that, as in gardening, it is usually better to work with nature rather than against it. I, for reasons which will appear later, am less inclined to optimism.

Before there can be any discussion of the method employed by de Waal to achieve his aim, or any assessment of his success in doing so, it is necessary to look at what he regards as the prerequisites for morality. He consistently identifies four basic traits under which he groups other related tendencies. He is not consistent in the order he bestows on the traits, but that may be because he considers them all equally important. It might well be argued that the list is not exhaustive, and it is also possible to point to particular human societies which, for one reason or another, have not displayed these traits. It would, however, as de Waal says, be difficult to imagine human morality without the following tendencies and capacities: sympathy, reciprocity, the development of social norms and ways of enforcing them, mechanisms for the avoidance of conflict and for conflict resolution. It is with the examination of these four traits and the presentation of evidence for their existence in non-human species that most of the book is concerned.

De Waal describes his writing as alternating between stories, theories and hard-won data, and he is careful to anticipate and forestall any criticisms that might arise simply from the form rather than the content of his work. He points out that the book is intended for the general reader, and that a single anecdote,

particularly one supported by an appropriate photograph, can do more to demonstrate a capacity than a thousand words of explanation. At the same time, he is at pains to include, either in the text or in the copious end notes, details of supporting research by himself and others. He also includes considerable discussion of cognition in non-human animals and of cognitive aspects of behaviour, particularly caring behaviour, but he is frank in recognising the limits of current knowledge in this particular field. While the work is undoubtedly accessible, and displays no lack of rigour, there are, however, certain problems with his approach, problems which arise from its very success. At the conclusion of the work, the reader is left with a vivid impression, not of a scholarly argument, but of a series of vignettes. In one way this does not matter. The vignettes, after all, illustrate the argument just as they were intended to do, but there is a problem nonetheless. The problem is one of anthropomorphism, not de Waal's anthropomorphism, but the anthropomorphism induced in the reader by the stories he tells.

Most of the stories that de Waal tells are stories of chimpanzees. There are stories of other species, including some particularly memorable ones of whales and elephants, but it is on chimpanzee society that de Waal focuses. This is perfectly understandable. The chimpanzees and the bonobos are our closest living relatives. According to recent DNA analyses we share over ninety-eight percent of our genetic material with each of these two apes, but the chimpanzees are to be found in greater numbers and have been more widely researched, both in captivity and in the wild. There could be nowhere better to look for signs of burgeoning morality. The trouble is that they are too like us. It is almost impossible to read their stories without seeing ourselves in them, and some of us may sometimes not like what we see, as I shall discuss later.

While I have been careful not to accuse de Waal of anthropomorphism, he is very aware that ethologists are often criticised for being anthropomorphic or even sentimental, and the same criticism is levelled at all those who take their pleasure in the observation or company of animals other than human. This means that their observations are devalued accordingly. To some extent, the validity of de Waal's thesis depends on his success in rebutting, in advance, the likely criticisms, and he begins this task by admitting that, in his chosen field of cognitive

ethology, anthropomorphism is almost impossible to avoid because the only words we have to discuss animal behaviour are words intended for communication about people. The very use of such a term as 'reconciliation' is likely to bring an instant charge of anthropomorphism, a charge which de Waal chooses not to reject. He suggests instead that such anthropomorphism, if this is what it is, can be used heuristically and he quotes, with approval, the use of the term, 'critical anthropomorphism'.

There is much evidence of primate behaviour which resembles reconciliation in humans, and there are several striking examples in this work, including examples of reconciliation brought about by the intervention of a third party, a peacemaker. I almost spoke of a disinterested third party, but, if the peacemaker is female and likely to suffer from male aggression in any conflict, there is a clear interest in the maintenance of peace within the group.

In order to justify his use of the word, 'reconciliation', de Waal looks carefully at its everyday use, and defines reconciliation as a reunion between former opponents following an aggressive conflict. It is followed by at least a temporary cessation of hostilities. If the observed behaviour matches the definition in all respects, then the use of the term is justified, even if the underlying process is not the same. If it does not, then a new label should be sought.

It is highly likely that the underlying processes are, in fact, the same too, for the principle of parsimony posits that if closely related species act the same way, then it would be uneconomic to assume different processes for similar behaviour. There is, however, another form of this same principle which de Waal sees as posing a problem for him. The principle of parsimony also tells us not to invoke higher capacities if a phenomenon can be explained with lower ones, and this presumably means that de Waal should not invoke complex cognitive abilities in discussing such phenomena as reconciliation behaviour in the great apes, especially if these abilities are still a matter of hot debate.

There is no doubt that the two faces of the principle of parsimony are a source of conflict for Frans de Waal as a cognitive ethnologist with a particular interest in understanding the cognitive abilities of our nearest relatives, but I would question whether the existence of the problem in any way undermines the

central thesis of this particular work. It is de Waal's contention that animals other than ourselves behave in ways which resemble human moral behaviour. He produces much evidence that this is so, and the force of this evidence is not diminished by equally strong evidence that human cognitive evolution has advanced further than theirs. It is still more likely than not that our similar behaviours have a similar source, and this is particularly true of the members of the primate family. In other contexts, de Waal has been quick to point out that our reasoning capacities do not drive our actions and that we are more given to rationalisations after the event than to careful considerations beforehand. It would seem that there are, indeed, good grounds for the application of the principle of parsimony, but to human rather than chimpanzee behaviour, and if, as de Waal asserts, there is growing evidence for mental complexity in the chimpanzee, then it may be necessary to invoke higher capacities in the explanation of such phenomena as chimpanzee reconciliation. If this is the only way a satisfactory explanation can be found, then there is no infringement of the principle.

It is not my intention to attempt here any detailed examination of de Waal's treatment of the four identified prerequisites for morality, but I do wish to look rather more closely at one of the four, the capacity for sympathy. There are two reasons for doing this. Sympathy is generally regarded as the first of the capacities necessary for morality, first both in time and in consequence. It is also the capacity most often described as 'natural' in both literature and philosophy, and is, accordingly, not infrequently ascribed to animals other than humans. It is, for example, the only virtue allowed by Rousseau to his hypothetical natural man, for, as he says, it is so natural that the very beasts themselves sometimes give evident proofs of it.

In his discussion of sympathy, de Waal prefers to use the term *succorance* in relation to animals. He regards this as the functional equivalent of human sympathy, and defines *succorant* behaviour as helping, caregiving, or providing relief to distressed or endangered individuals other than progeny. *Succorance* may be cross-species and may extend to the long-term care of the disabled. *Succorant* behaviour bears a close resemblance to parental care, but is found only in those animals which form strong attachments. Even in myth and legend, solitary predators

are not usually endowed with succorance, although they may be its beneficiaries.

There is no lack of evidence for the existence of such behaviour, and it is not difficult to explain a continuum of nurturance, attachment and succorance in purely evolutionary terms. Where there is a long period of infant dependence, for example, there are obvious advantages in association. What is far more difficult to determine is the extent to which cognitive abilities have a role in succorant behaviour in both humans and other animals. It may be that some caring behaviour, even in humans, is an automatic response to a particular stimulus, while some behaviour observed in chimpanzees is of such complexity that it is difficult to explain unless it is allowed that these animals are capable of forming intentions with the other's interests explicitly in mind. On the whole, de Waal seems prepared to regard human sympathy as simply an enhanced extension of an original tendency found also in other animals. While it is, of course, true that humans may be able to provide help more efficiently than could another animal, it is also true that our cognitive abilities may be used just as efficiently to stifle an original impulse. This fact does not, however, diminish the likelihood that succorance and sympathy have the same origin.

Although I found little to disagree with in de Waal's account of the likely evolution of human sympathy, I did not read it without some misgivings, misgivings which were not allayed by the account of the development of social rule and systems of reward and punishment among primates. If sympathy is associated with nurturance and so with females as primary or only caretakers of the young in virtually all primate species, then the development of rule and order is associated with the male, so much so that de Waal gives some consideration to gender differences in relation to morality.

This is not an oblique accusation of sexism, for my misgivings have little to do with anything that de Waal says. On the contrary, de Waal makes every effort to show how differences of social organisation and relations between the sexes may be traced to differences in environmental pressures, and he is particularly good at playing the game of the counter example. Whatever behaviour he illustrates, he customarily produces an example of contrary behaviour in a related species, for he is interested only in

establishing broad general tendencies, and is much more inclined to stress the human capacity for change than to emphasise our inescapable genetic heritage. In any case, little of what he says is unfamiliar. His achievement lies rather in producing a mass of evidence that serves to confirm some of our earlier speculations and discount others, and he would be the first to admit that his task is far from complete. The notion of gendered morality is certainly not new, for it has been the subject of philosophical debate and tragic poetry and drama since the time of the Greeks. My misgivings have, in fact, far more to do with the chimpanzees than de Waal.

In a very recent publication, *Bonobo: the forgotten ape*, de Waal makes the following observation, which merits quotation here.

Had bonobos been known earlier, reconstruction of human evolution might have emphasised sexual relations, equality between males and females, and the origin of the family, instead of war, hunting, tool technology, and other masculine fortes.¹

The bonobo is just as intelligent as the chimpanzee and just as closely related to our species, but it is very different in its temperament and habits. More sociable and vocal than the chimpanzee, the bonobo rarely engages in any form of physical violence and is most notable for the pleasure it takes in frequent and extraordinarily variable sexual activity, a pleasure shared equally by females and males.

I do not wish to suggest that we are, or should be, more like bonobos than chimpanzees, although some of us probably share some of their proclivities, but I would suggest that by focusing on chimpanzee society we run the risk of reinforcing behaviour that many of us would regard as highly undesirable. Whatever the variety of human behaviour and association, there seems little doubt that the ethos of late twentieth century capitalist society is that of the chimpanzee dominant male. Chimpanzee male society is a hierarchical one marked by status-seeking, high levels of competition and aggression, including aggression against females, and prescriptive rules which are frequently broken. In chimpanzee society as a whole, however, there seems to be a precarious balance in the relationship between males and females

¹ Frans de Waal & Frans Lanting, *Bonobo: the forgotten ape*, photographs (University of California Press, Berkeley, 1997).

which promotes the well-being of the group. There are several instances in *Good Natured* of females intervening successfully in disputes between males, and of males showing caring behaviour and tolerance for the transgressions of the young. While I would not suggest chimpanzee female behaviour as a model any more than male, I would suggest that we may be in some danger of losing the balance necessary for our well-being and even, ultimately, our survival. I strongly recommend a study of *Bonobo* to quell some of the misgivings to which I have alluded.

In the first paragraph of this essay, I mentioned that de Waal is rarely dismissive of the views of others, and he shows familiarity with and respect for the work of a number of philosophers. There is, however, one exception to this rule, for de Waal exhibits a considerable hostility towards the views of Peter Singer, and, in particular, towards the proposal contained in a volume called *The Great Ape Project*² in which Paola Cavalieri advocate a 'community of equals' consisting of apes and humans. It is a project which de Waal, who manifestly has great affection and respect for the great apes, dismisses, in unusually strong terms, as showing blatant anthropocentrism and profound condensation.

I have no wish to embark here on a defence of either de Waal or Singer in relation to this matter, but, while acknowledging Singer's achievements on behalf of animals, I have always been puzzled by his dismissive attitude towards those who are interested in them. In the preface to the 1975 edition of *Animal Liberation*,³ he makes a point of disavowing any such interest on the part of his wife or himself, and he seems to suggest that judgments about animals are best made by those of a similar bent. Such people may, of course, claim to be truly disinterested, but whether lack of knowledge can lead to sound judgments is a different matter. It could probably be said that some ethologists have displayed excessive enthusiasm and scant consideration for the objects of their investigations. I do not believe that these charges can be brought against de Waal, and I do believe that studies in primatology, such as his, can help us to gain a better understanding of both ourselves and our closest relatives. We

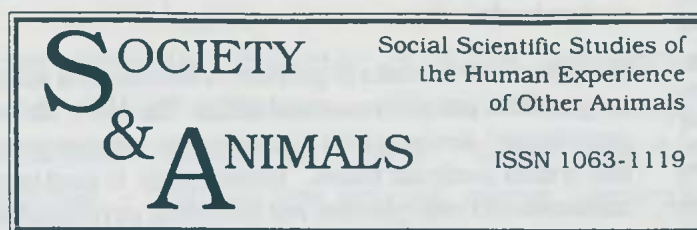
² Paola Cavalieri & Peter Singer, *The Great Ape Project: Equality beyond Humanity* (Fourth Estate, London, 1993).

³ Peter Singer, *Animal Liberation* (Jonathan Cape, London, 1976).

may need this understanding to ensure both their survival and our own.

On the closing page of the book, De Waal predicts that science will soon wrest morality from the hands of the philosophers. I interpret this as a rhetorical flourish, but, in any case, some moral philosophers of the past fare quite well in the light of de Waal's thesis, David Hume, for example, and I doubt if philosophers of today will be deterred from thinking about the way things are. What can be said is that scientists of de Waal's calibre provide us with plenty to think about.

Felicity Sutcliffe



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Book Review

Rogers, Lesley, Minds of Their Own: Thinking and Awareness in Animals, 212pp., Allen and Unwin, St.Leonards, New South Wales, 1997.

To say of someone that they have a 'mind of their own' is usually to praise them, to imply that they can think independently. We take the minds of other humans for granted, we assume that they have a mind in the first place, which can become one's own: but we rarely make such assumptions for nonhuman animals. Nonhumans are all too often assumed to be mindless automata. 'Minds of their own' is thus a title aiming to challenge persistent cultural beliefs about other species.

Lesley Rogers is a biologist, whose research focuses on animal behaviour. Her particular challenge is to the assumptions made by many of her fellow scientists. Those of us trained in the science of animal behaviour have been taught not to anthropomorphise - that is, we should never generalise from human thoughts and feelings to animal behaviour. The trouble with consciousness and the notion of mind is that they can't be observed, only inferred; hence, we should not attribute consciousness to animals, the argument goes.

This scepticism remains a strongly held conviction among many scientists. But, Rogers notes, there are increasing numbers of biologists who question it, who do seek to find ways to ask about animal minds. Her book explores many of the recent findings, moving through issues of self-awareness, deception and intentionality, questions of intelligence and memory, and the relationship between brain size and consciousness. Throughout, she gives the benefit of doubt to the animals studied.

Western culture, Rogers points out, is heavily invested in defending a boundary between intelligent humans and (nonintelligent) other species. Scientists continue this tradition, tending to prefer interpretations of behaviour that deny self awareness or consciousness. But the boundaries are arbitrary; we include humans in consciousness even if they lose the capacity

for language, yet when nonhumans learn some features of human language we search for ways to dismiss their abilities.

Rogers gives many examples of this boundary maintenance. She cites, for example, one scientist who insists that even other apes cannot access memories independently of triggers in the environment. He is not convinced by the many studies of sign-language acquisition in apes, even when Koko the gorilla expressed past sadness at the death of her companion kitten.

'In the absence of evidence', suggests Rogers, such people 'who categorically state that all animals are locked into thinking about and responding only to the immediate environment, are expressing their attitudes to animals, not scientific evidence' (p. 75).

Those who want to maintain a boundary seek all kinds of fence posts. Language is one (though challenged by sign-learning chimpanzees); tool use is another (also challenged by a range of species which use tools). Yet, in her careful analysis of both animal abilities and the evidence of early hominid evolution, Rogers can find no fences:

'If there is a discontinuity between *Homo sapiens* and other living species', she concludes, 'it does not lie in the exclusive possession of any one of these traits'.

We may be better at some things (tool using for instance) but there is no evidence of traits exclusive to humans. There is even:

'a continuity of human speech with the brain structures that are used for vocalisations in animals. Both stone and wooden tools were being used well before humans evolved and planning ahead is essential to the survival of many species. No single feature on its own makes us special' (pp. 163-4).

Not only do prevailing cultural beliefs about the stupidity of nonhumans enter scientific interpretations, but the experiments themselves are often designed to support them. Can we really conclude animal stupidity when we compare humans to animals who have spent all their lives in highly impoverished environments? It would hardly be surprising if a laboratory-reared chimpanzee failed to solve some of the problems it was set; so would a human child reared in such dire surroundings.

The riposte of some scientists is that, to draw proper conclusions, we must have properly controlled conditions. On those grounds, they reject the interpretations offered by people who have raised chimpanzees to use sign language. This, Rogers points out, is:

'a double bind. On the one hand, the rearing and testing conditions must be controlled completely or the complex cognitive abilities that animals display will not be believed. On the other hand, if the rearing and testing conditions are controlled completely, the environment becomes so sterile that animals raised in it will be less able, or willing, to display complex cognitive abilities, language abilities and consciousness' (p. 171).

Controlling conditions also means losing the individual. Animals become groups in experimental protocols. By contrast, those of us who live in close companionship with specific individuals of other species - as Rogers does with her Rhodesian ridgebacks - know how variable and different they are. Each has her or his own personality. I may be a scientist, but I don't need science to tell me whether or not my dogs or horses have consciousness or understand what I say. My answer comes from my own individual experiences with those animals.

Lesley Rogers clearly shares that belief that she is communicating with a conscious and aware being when she interacts with her dogs, or with the orangutans she has studied in East Malaysia. But she does not generally argue from that personal experience; on the contrary, she is very careful to examine the evidence from the science itself and to question the conclusions of many scientists. We could just as well start from the premise of animal awareness, she believes, as starting from the prevailing belief in its lack.

Giving nonhuman animals the benefit of the doubt in such ways should extend beyond simply interpreting data. If we start from the premise that (at least some) animals can be aware, then we can allow that some species might be aware of the suffering of their fellows. Koko the gorilla, suggests Rogers, exhibited empathy toward another gorilla who was crying, apparently to be let out. Yet how often is that possibility of empathy ever taken into account by those who work with (use) nonhuman animals? Like Rogers, I too have often seen other scientists killing rats in front of their cagemates; like her, I have wondered, with pain, what

those other rats were experiencing. Many animals in laboratories or farming environments might suffer because of their awareness of the suffering or death of their fellows. As Rogers notes:

'None of the present guidelines for animal welfare take this into account' (p. 188).

Lesley Rogers makes a persuasive case. At the very least, she urges, nonhuman animals should be given the benefit of the doubt, not assumed a priori to have no consciousness or minds. Her book is, moreover, written accessibly, avoiding the overly complicated language beloved of so many scientists. There is a great deal invested in maintaining the boundary between 'us humans' and 'them', and much of the science is devoted to fence-building. But even within that science there is growing interest in animal minds, and growing resistance to the idea that animals are merely clockwork machines.

If we posit other species as mere machines, what does that say about ourselves? What does it say about our relationships to those other species? Among other things, it limits our understandings. Rogers concludes her book:

'By ignoring the most interesting attributes of the behaviour of animals we not only diminish our own experiences but also diminish the existence of animals.' (p. 195).

Other species are adapted to quite different environments to us, requiring different skills to negotiate - not lesser, just different. And to do that they must have minds of their own.

Lynda Birke

Book Notes

Dennett, Daniel, *Kinds of minds*, x + 244pp., Phoenix, London, 1996.

Dennett takes up the question of animal minds. Do animals have subjective states or are they merely capable of (sometimes) doing clever things. His answer is curiously dogmatic. They have no subjective states, hence they have no minds. Yet in the same breath -the book can be read in almost one breath- he acknowledges our ignorance about animals and their capacities. The argument appears to be: if we are unsure of the capacities of animals then we should say they have no subjectivity, no minds. He claims that language gives humans a unique advantage in the development of subjectivity but this is not a good argument unless we have established that other animals do not have 'languages'. We do not know this and Dennett does not even refer to the studies with dolphins and bonobos which purport to show that they have language. This is a profoundly disappointing book because a great deal of it simply restates the dogmatism of past philosophy concerning the uniqueness of humans.

Hoeg, Peter, *The Woman and the Ape*, 229pp. Harvill Press, London, 1996.

Two thirds of this book is a wonderful, witty novel full of attacks on meat eating, zoos and animal experimentation but with a very soft touch. There is a very clever and constant use of animal analogies, e.g. 'There is nothing pleasant about abandoning the protection afforded by hopes and daydreams and Madelaine shrank from it like a hermit crab forced to leave its whelk shell' (p.75). It is only after a while that you realise that when an analogy is drawn it nearly always involves an animal. The last third of the book is a sexual/social fantasy straining all credibility. An ape whisks a woman away to a supposedly idyllic garden. Realizing the limitations of such a life they return to society draw out other (hidden) apes and sail away

Carruthers, Peter and Smith, Peter K, editors, *Theories of theories of mind*, xv + 390pp., Cambridge University Press, Cambridge, 1996.

The first three parts of this book take up a wide range of debates in the philosophy of mind. Part four consists of four articles on whether non-human primates have minds. The authors are Andrew Whiten (Psychology, St Andrews), Daniel Povinelli (Comparative Behavioural Biology, New Iberia Research Center), Juan-Carlos Gomez (Psychology, Madrid) and Peter Smith (Psychology, Sheffield). Andrew Whiten concentrates on what it means to attribute mental states to beings such as chimpanzees. Daniel Povinelli tries to show that there are plausible reasons why chimpanzees (at least) might have a theory of mind pointing to features such as gaze-following and self-recognition in mirrors but then he raises some doubts. Shifting the focus onto practical understandings of overt mental states as expressed in intelligent social action, Gomez argues that what chimpanzees display is more complex than trial-and-error but it need not involve a meta-representational theory of mind. While Smith asserts that a theory of mind cannot exist without language - in the sense of an abstract symbolic system of communication. The conclusion to the article and the book is quite a telling example of human arrogance: 'Only if chimpanzees could talk to each other about mental states would they have evolved mind-reading, and only if they could talk to us about mental states would we believe them'. Hopefully the club of 'we' is diminishing.

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